JPRS 75316

17 March 1980

USSR Report

CONSTRUCTION AND EQUIPMENT

No. 1

FBIS FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service (NTIS), Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semimonthly by the NTIS, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Indexes to this report (by keyword, author, personal names, title and series) are available through Bell & Howell, Old Mansfield Road, Wooster, Ohio, 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

Soviet books and journal articles displaying a copyright notice are reproduced and sold by NTIS with permission of the copyright agency of the Soviet Union. Permission for further reproduction must be obtained from copyright owner.

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO. JPRS 75316	2.	3. Recipient's Accession No.

4. Title and Subtitle
USSR REPORT: CONSTRUCTION AND EQUIPMENT, No. 1

5. Report Date
17 March 1980

6.

7. Author(s)

8. Performing Organization Rept. No.

9. Performing Organization Name and Address
Joint Publications Research Service
1000 North Glebe Road
Arlington, Virginia 22201

10. Project/Task/Work Unit No.

11. Contract(C) or Grant(G) No.
(C)
(G)

12. Sponsoring Organization Name and Address
As above

13. Type of Report & Period Covered

14.

15. Supplementary Notes

16. Abstract (Limit: 200 words)

This serial report contains information on the construction industry and on metalworking equipment. The construction category includes information on the economic aspects of the construction, construction machinery, and building materials industries including plan fulfillment and use of construction machinery and building materials. The metalworking category includes information on the economic aspects of the production and operation of machine tools, introduction of automated production lines, and related equipment.

17. Document Analysis a. Descriptors
USSR
Construction
Construction Materials
Construction Equipment
Metalworking Equipment
Economics

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group 5C, 13C, 13H, 13I, 13M

18. Availability Statement Unlimited Availability Sold by NTIS Springfield, Virginia 22161	19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages 183
	20. Security Class (This Page) UNCLASSIFIED	22. Price

(See ANSI-Z39.18) See Instructions on Reverse

OPTIONAL FORM 272 (4-77)
(Formerly NTIS-35)
Department of Commerce

JPRS 75316

17 March 1980

USSR REPORT

CONSTRUCTION AND EQUIPMENT

No. 1

CONTENTS PAGE

CONSTRUCTION

Decree's Impact on Construction Completion Described
(D. Shapochkin; STROITEL'NAYA GAZETA, 25 Jan 80)........ 1

Decree's Impact on Regional Planning Explained
(A. Rezchikov, R. Shakirov; STROITEL'NAYA GAZETA, 20 Jan 80)... 4

Construction Goals for Final Year of Tenth Five-Year Plan
(B.V. Bakin; MONTAZHNYYE I SPETSIAL'NYYE RABOTY V STROITEL'STVE, Jan 80).................................. 7

Measures for Improving Production, Quality of Work
(I.A. Mekryukov; MONTAZHNYYE I SPETSIAL'NYYE RABOTY V STROITEL'STVE, Nov 79).................................. 16

Improvements in Consumer Services in Moscow Described
(B. Ye. Samarenko; GORODSKOYE KHOZYAYSTVO MOSKVY, Jan 80)... 23

Improve Administrative Structure of Construction Organizations
(V.A. Zhukov: ZHILISHCHNOYE STROITEL'STVO, Dec 79)...... 29

Minsk Official Comments on Preparations for 1980 Olympic Games
(S.M. Lukashevich Interview; GORODSKOYE KHOZYAYSTVO MOSKVY, Jan 80)... 34

Architectural Supervision Lacking in Olympics Preparations
(V. Nesterov; STROITEL'STVO I ARKHITEKTURA MOSKVY, Oct 79)... 39

Chronicle of Olympic Construction Projects
(V.G. Trofimov; ZHILISHCHNOYE STROITEL'STVO, Dec 79).... 44

CONTENTS (Continued) Page

Preparation of Moscow Hotels for 1980 Olympic Games
(C.I. Chibisov; GORODSKOYE KHOZYAYSTVO MOSKVY, Jan 80). 48

Kosmos Hotel To Be Utilized During 1980 Olympics
(V. Steyskal; NA STROYKAKH ROSSII, Oct 79)............. 54

Facilities for 1980 Olympic Games in Moscow
(G.A. Naumik; GORODSKOYE KHOZYAYSTVO MOSKVY, Jan 80)... 59

Construction in the Moscow Suburbs for 1980 Olympics
(S. Bulyga; ZHILISHCHNOYE I KOMMUNAL'NOYE KHOZYAYSTVO, Sep 79).. 63

Olympics Firing Range in Mytishchi
(V. Fedorov; STROITEL'STVO I ARKHITEKTURA MOSKVY, Oct 79).. 66

General Review of Housing, Industrial Construction in Kazakhstan
(Various sources, various dates)...................... 71

Consolidation Needed, by R. Khanbalikov
Construction Problems in Alma-Ata, by R. Khanbalinov
Construction of Industrial Parks, by Yu. Ponomarev

Housing Construction in Uzbekistan Cities Forecasted
(Various sources, various dates)...................... 82

General Prognosis, by A.Ye. Borodin, et al
Uzbek Flow-Line Urban Construction, by A.A. Dyadik
Capital Investment in Uzbekistan, by P. Rakhapov
Uzbek Capital Construction, by A. Khodzhayev

Estonian Housing Renovation Problems
(M. Buzhkevich, D. Klenskiy; PRAVDA, 13 Oct 79)........ 100

Estonian Architects Hold 12th Congress
(SOVETSKAYA ESTONIYA, 8 Dec 79)....................... 104

Lithuanian Construction Quality Normatives
(L. Skardinskas, R. Bukov; STROITEL'NAYA GAZETA, 18 Nov 79).. 108

Exchange on Measuring Capacity of Construction Contractors
(STROITEL'NAYA GAZETA, 13 Jan 80)..................... 111

Ipatov's Proposal
Voshchanov's Comment, Interview

CONTENTS (Continued) Page

Case of Work Team Resignation Recounted
(N. Fomina; STROITEL'NAYA GAZETA, 19 Dec 79)........... 115

Readers, Others Comment on Innovation
(STROITEL'NAYA GAZETA, 26 Dec 79)...................... 119

Recommendations of USSR Gosstroy
New Technology: Practical Application, by K. Ratkevich
Suggestion by Reader, by O. Vol'skaya
Gosstroy Officials Speak
'Innovation Service'

CONSTRUCTION MACHINERY

Soviet Construction Machine Building Reviewed in Five-Year Plans
(V.A. Nikoforov; STROITEL'NYYE I DOROZHNYYE MASHINY, Nov 79).. 125

Statistics on Construction Machine Age Faulted
(A. Kovalev, V. Filimonov; STROITEL'NAYA GAZETA, 7 Dec 79)... 134

Serially Produced Tower Cranes, Construction Hoists Described
(STROITEL'NYYE I DOROZHNYYE MASHINY, Nov 79)........... 136

Efforts To Get More, Better Soil-Compacting Machines Told
(STROITEL'NAYA GAZETA, 21 Dec 79)...................... 141

BUILDING MATERIALS

Policy on Superplasticizers for Concrete Discussed
(I. Tsygankov; STROITEL'NAYA GAZETA, 14 Dec 79)........ 143

Work Lags on Building Components Plants
(STROITEL'NAYA GAZETA, 18 Jan 80)...................... 145

Wood Widely Used in Housing Construction
(N. Serov Interview; STROITEL'NAYA GAZETA, 20 Jan 80).. 149

Current Preparations for Producing Wood-Concrete Told
(V. Kapel'kin; STROITEL'NAYA GAZETA, 25 Jan 80)........ 153

Output of Rebuilt Building-Materials Plant Not Fairly Priced
(B. Khaykis, V. Prokopenko; STROITEL'NAYA GAZETA, 8 Dec 79)... 156

Suppliers Deny Builders Extra Metal for Special Needs
(Yu. Zubenko: STROITEL'NAYA GAZETA, 23 Nov 79)......... 158

CONTENTS (Continued) Page

METALWORKING EQUIPMENT

Increasing Labor Productivity Via Technology
(V.V. Bitunov; MEKHANIZATSIYA I AVTOMATIZATSIYA
PROIZVODSTVA, No 9, 1979)............................. 160

Sverdlovskaya Oblast Machinery Industry Survey
(Yu. S. Sharin, T. I. Tishenina; MASHINOSTROITEL',
Jan 80).. 168

Digital Programmed Control Machine Tools
(V.A. Shnurnikov, B.A. Dmitrichenko; MASHINOSTROITEL',
Jan 80).. 170

Multi-Purpose Digital Programmed Machine Tools Discussed
(B.S. Voskoboynikov, V.A. Potapov; MEKHANIZATSIYA I
AVTOMATIZATSIYA PROIZVODSTVA, No 6, 1979)............. 174

Automatic Centerless Grinder Polishing Machine
(I.T. Napadaylo, et al; MEKHANIZATSIYA I AVTOMATIZATSIYA
PROIZVODSTVA, No 11, 1979)............................ 177

DECREE'S IMPACT ON CONSTRUCTION COMPLETION DESCRIBED

Moscow STROITEL'NAYA GAZETA in Russian 25 Jan 80 p 2

[Article by D. Shapochkin, division head of the Scientific Research Institute of Construction Economics and candidate of economic sciences, in the regular feature edited by A. Mitrofanov, professor and doctor of economic sciences: "The Final Result Is the Point of Reference"]

[Text] In every planning period construction workers not only deliver capacities ready for use, but they also continue work and expend physical resources on projects not yet scheduled for activation. It is inevitable, then, that the performance of construction organizations be assessed on the basis of intermediate results. The efficiency of economic instruments for management of production is characterized above all by the impact they have on attainment of final results. An important and complicated problem arises therefrom: how to orient the current activity of organizations toward the final results.

The answer to this question is supplied by the decree of the CPSU Central Committee and USSR Council of Ministers on improving the economic mechanism. The comprehensive approach to solving the problem is characteristic. The decree calls for reorganization of all the basic elements of the economic mechanism: planning, evaluation of performance and the incentives of the cost-accounting system, funding, credit financing and settlement of accounts between the participants in construction, and the setting of prices.

The performance of construction and installation organizations will be evaluated and they will be awarded economic incentives according to the results of fulfillment of targets for activation of production capacities and projects, for commodity construction output, for the rise of labor productivity, and for larger profit.

If in certain periods targets for activation of projects are not set or the figures are very low, the performance of the organizations will be evaluated according to the results of fulfillment of the approved schedules for performance of operations at the particular construction sites, and on the basis of reduction of production cost and the rise of labor productivity.

In such cases material incentive funds will be spent in advance on the basis of the saving from reduction of production cost and planned accumulation embodied in unfinished construction work.

The decree straightforwardly defines the place of final and intermediate results in the system of economic instruments. Assessment of performance on the basis of intermediate results is subordinate to the basic goal--achievement of the final results. It is important not only to fulfill the total volume of operations, but also to adhere to production schedules, which ensure that the project will go into operation on schedule in the future.

The awarding of bonuses on the basis of the results of fulfillment of work schedules does not have independent importance, but stands as an advance against the future final result.

In the treatment of this question from the methods standpoint it would be wise, in our view, to take the following two factors into account. First, the proportion of the advance transfers must be appreciably lower than the transfers from profit for the project that has been completed and delivered. Second, a functional dependence should be established between the advance that is credited and the meeting of planned construction deadlines. If an organization finishes on time or completes a project ahead of schedule, the amount actually advanced is deducted. If an organization adopts and fulfills a counterplan, less than the entire advance will be deducted. If planned construction time is exceeded, then more than the advance will be withheld depending on how late completion is. This procedure consistently realizes the idea contained in the decree of subordinating the immediate results to the final results.

The decree strengthens substantially incentives based specifically on activation of capacities and projects. Bonuses for activation paid out of the funds of the customer are being increased on the average from 2.2 to 3 percent of the estimated cost of work on the project activated. A new type of incentive has been instituted: for reduction of the standard construction time of industrial projects; it is paid out of the profit of the customer earned during the period by which the standard construction time was reduced.

The principal value indicator of the production program of construction organizations is now the commodity construction output, which is defined as the value of construction and installation work on enterprises put into operation and complexes, phases and projects capable of independent operation that are ready for production or the rendering of service. At the same time the system of settlement based on commodity construction output is being established between the client and the contractor. This creates a stable relation between the activation of capacities and projects on the one hand and the entire system of planning, cost accounting and economic incentives of construction organizations on the other.

The profit from the sale of the commodity construction output assumes the role of what is in effect the ultimate indicator. Transfers from profit to economic incentive funds are now in essence an incentive for organizations to put capacities and projects into operation. A real basis is created for pooling bonus funds formed from profit and from the client's funds. The prerequisites now exist for paying out these funds on the basis of uniform indicators and conditions. This pooling would concentrate and therefore strengthen the impact of the incentive system on the final results of production.

At the same time the commodity construction output should not be regarded as the equivalent in value terms of the indicator of activation of projects. The important thing to the national economy is not the total amount of activation (which is reflected by the commodity construction output), but the activation of all projects of a given capacity and for specific clients called for by the plan. The performance of a construction organization should be evaluated above all, then, on the basis of activation of the entire planned list of projects.

For example, the Lithuanian Ministry of Construction fulfilled the plan for commodity construction output in 1978 at a level of 105 percent. But at the same time two capacities foreseen by the plan were not put into operation. Overfulfillment of the plan for commodity construction output would be achieved by virtue of above-plan activation of other capacities.

In 1981 conversion of construction projects included in the state capital construction plan to comprehensive supply of materials under orders of construction and installation organizations in accordance with their need as defined in project plans and estimates will be completed. Thus material and technical supply will also be directly linked to the final results of construction.

The decree outlines a gradual transition in the 11th Five-Year Plan to the planning of labor productivity in construction and installation organizations on the basis of net output (normative) or some other indicator that reflects more accurately changes in labor expenditures, while the wage fund will be planned on the basis of the standard ruble of output on the basis of that indicator.

The planning of commodity construction output by associations, enterprises and client organizations has fundamental importance. This ensures the general orientation of the efforts of the two leading participants in construction toward the final results. Up to now the client's activity has been evaluated on the basis of the percentage of assimilation of capital investments, though for construction organizations the related indicator of the total volume of contract work lost its original significance back in 1970. This operation of economic instruments at cross purposes is being eliminated. The volume of capital investments is being given a role that inherently belongs to it, that of an indicator that serves as a limit.

7045
CSO: 1821

CONSTRUCTION

DECREE'S IMPACT ON REGIONAL PLANNING EXPLAINED

Moscow STROITEL'NAYA GAZETA in Russian 20 Jan 80 p 3

[Article by A. Rezchikov, head of the division for development and location of the construction industry and the building materials industry, and R. Shakirov, senior staff scientist, both of the Central Scientific Research Economics Institute of RSFSR Gosplan: "Flaws in Forecasting"]

[Text] In recent years a number of methods and instructions have been prepared on planning the comprehensive development of the economies of oblasts, krays and autonomous republics. However, as noted in the decisions of the 25th party congress, the overall level of regional planning is still not high enough and does not guarantee the correct combination of sectoral and regional development. This fully applies to the planning of capital construction and its material and technical base. To be specific, narrowly departmental tendencies in planning have not been eradicated. Numerous tiny and poorly mechanized enterprises and production operations subordinate to the most varied ministries and departments are being created. It is not uncommon for there to be a discrepancy between the location of construction projects and enterprises representing the stationary facilities of the construction and building materials industry, so that fabrications and materials have to be shipped too far.

The present procedure for planning capital investments allows for construction organizations and enterprises of the building materials and fabrications industry to be created by practically any ministry, department or association. An especially large number of small construction organizations and subsidiary production operations are in the system of nonconstruction ministries and departments, which now have jurisdiction over more than half of all enterprises representing the production capability of the construction sector. Moreover, if ministries and departments operating as contractors draft schemes for development and location of the material and technical base, then nonconstruction ministries do not regard it as binding.

The decree of the CPSU Central Committee and USSR Council of Ministers entitled "On Improving Planning and Increasing the Impact of Economic Instruments on Production Efficiency and the Quality of Performance" calls for interrelated solution of economic and social problems and for concentration of energies and resources on solving the most important nationwide problems, standing in the way of the narrow sectoral approach to the drafting of plans. Priorities need to be correctly determined in the development of industries and economic regions so as to ensure the proportions of the national economy and to increase the efficiency of capital investments.

STROITEL'NAYA GAZETA has already recounted how comprehensive schemes of development and location of the construction center's material and technical base are being drafted (No 115, 26 Septmber 1979). The comprehensive schemes are being compiled for republics, economic regions, krays and oblasts. They are to be the basis for drafting departmental schemes by ministries and their regional subdivisions operating as contractors.

We are going back to what was previously published because at the outset of this important project in economic planning there are serious shortcomings. At the present time No 2 Project Planning Institute of USSR Gosstroy, jointly with other scientific organizations, is completing the drafting of comprehensive schemes for the autonomous republics, krays and oblasts of RSFSR. An analysis of them with respect to a number of regions of RSFSR conducted by the Scientific Research Institute of Construction Economics of USSR Gosstroy jointly with the Central Scientific Research Economics Institute of RSFSR Gosplan showed that the technical-and-economic justifications in the schemes did not encompass all the existing enterprises and production operations constituting the capability of the construction center, nor did they fully take into account the need for construction and installation work and major repair of buildings and structures.

Indicators computed for the future concerning the need for material resources and the amounts of capital investments are frequently established in the comprehensive schemes on the basis of the hypothetical model and not the real proportions which have taken shape in the region in the base period. Thus the computations of economic efficiency are very problematical.

The combination of the sectoral and regional aspects of planning is very important in developing the natural resources in the zone of construction of the BAM [Baykal-Amur Trunk Rail Line]. Emphasis here has been put on shaping and developing regional industrial centers. Unfortunately, the prospective schemes for development of the construction sector by 1990 in Chitinskaya, Irkutskaya and Amurskaya oblasts and Yakutskaya and Buryatskaya autonomous republics, which were drafted by project planning institutes, have left many "gaps." In the areas of the Upper Lena, Northern Baykal, Western Amur and Zeya-Svobodnyy TPK's [regional industrial centers], and also the Udokan Industrial Park did not provide for a single facility of the construction and building materials sector. Though even now, for example, deposits are being prospected with reserves of more than 600 million cubic meters of building stone and other building materials. The schemes do not always take into account shipping costs.

The comprehensive schemes for development of construction and its physical plant and equipment are being drafted on the basis of the decisions of the 25th CPSU Congress and other party and government documents. They are extremely important to the proportional development of the national economy. We cannot allow these multiannual plans to repeat the flaws that were the usual thing in past years.

7045
CSO: 1821

CONSTRUCTION

CONSTRUCTION GOALS FOR FINAL YEAR OF TENTH FIVE-YEAR PLAN

Moscow MONTAZHNYYE I SPETSIAL'NYYE RABOTY V STROITEL'STVE in Russian No 1, Jan 80 pp 2-4

[Article by B.V. Bakin, USSR Minister of Installation and Special Construction Work: "Final Year of the Five-Year Plan"]

> [Text] The CPSU Central Committee calls upon the communists, komsomols and all Soviet people to celebrate the jubilee of Vladimir Il'ich Lenin with new successes in the campaign to achieve communism and to convert the final year of the Tenth Five-Year Plan into a year of shock Leninist work.
>
> From the decree of the CPSU Central Committee entitled 110th Anniversary of the Birth of Vladimir Il'ich Lenin"

In following the general program of our party, the Soviet Union is confidently gaining new ground with each passing year in the competition between the two systems. It is making progress and it is acquainting the entire world with the indisputable advantages of socialism. Our country made large advances in developing its national economy during the fourth year of the Tenth Five-Year Plan. Many labor collectives, in competing to fulfill their high socialist obligations, achieved great production successes in 1979. Our state has become stronger and richer and the might of socialist industry has increased.

The builders and installation workers made a great contribution in behalf of national economic development. In solving their principal task, the collectives of construction-installation organizations ensured the placing in operation of many new production capabilities during 1979. This included such large-scale industrial complexes as coke furnace batteries at Cherepovets, Kemerovo, Avdeyevka and Krivoy Rog, capabilities for extracting ore at the Severnyy, Novo-Krivoy Rog and Kovdor GOK's [mining and concentration combine], for the production of mineral fertilizers at Voskresensk, Dorogobuzh, Novgorod, Cherkassy, Rovno, Soligorsk and Samarkand, ammonia at Odessa, Gorlovka, Kemerovo, Cherepovets, Novgorod and

Grodno, large capabilities for the initial refining of petroleum at Lisicnansk, Groznyy and Nizhnekamsk, tires at Obsk, the first phase of the Kiyembayevskiy Mining-Enrichment Asbestos Combine, capabilities for the production of fabrics at Nevinnomyssk and Lutsk and the Dobrinskiy Sugar Plant. Upon the completion of their installation work, units began producing ammonia at Dneprodzerzhinsk, Novomoskovsk and Tol'yatti and carbamide at Novomoskovsk and Grodno. A great amount of work was carried out on olympic projects. During 1979 on the whole, the ministry's plan for contractual work and placing housing space in operation was fulfilled, an increase took place in labor productivity at construction-installation organizations and industrial enterprises and the tasks for profit from all types of activity and for payments into the budget were fulfilled.

The successes achieved are the result of a great amount of work being carried out by the collectives of organizations and enterprises of the ministry in connection with accelerating technical progress and uncovering and utilizing hidden reserves and they also derive from the extensively deployed socialist competition.

During the first 4 years of the Tenth Five-Year Plan, the organizations of the ministry consistently introduced progressive methods for production operations and efficient structures, mechanisms and materials. The large-unit installation of technological equipment entered into more widespread use. Whereas initially this method was employed mainly for heavy industry construction projects, today it has become the principal method for use at construction projects of all branches of industry, including the light and food industry. The conveyer method for installing the structures for industrial building coverings is gaining in popularity. It is being employed successfully for installing the structures for the air heaters of blast furnaces, radio relay masts and intra-departmental scaffold bridges.

The new branch of the construction industry -- plant production of light supporting and enclosing structures -- continues to develop on a more extensive scale. An increase took place in the introduction of industrial structures and items for the carrying out of all types of installation and special construction work. A number of new developments took place at the installation sites owing to close interaction between science and production operations: laser adjustments of equipment, new methods for carrying out electric welding work and mastering the production of highly efficient profiles for the manufacturing of metal structures, such as bent-welded closed elements at the Molodechno plant.

At the same time, substantial shortcomings exist in the work being carried out by organizations and enterprises of the ministry. The plans for placing underway projects in operation and completing sub-contractual work are not being carried out completely. A large number of trusts, installation administrations and plants are failing to fulfill their principal tasks in terms of work volumes and industrial production, for raising labor productivity and lowering production costs. Not all of the organizations are devoting the required amount of attention to production preparations, during which process decisions should be made for ensuring the thrifty utilization of material and technical resources and monetary funds. In turn, this inhibits the rates for technical progress and this exerts an adverse effect on labor productivity.

The November (1979) Plenum of the CPSU Central Committee approved and the Second Session of the USSR Supreme Soviet, of the Tenth Convocation, confirmed the plan for economic and social development in the USSR during 1980. In conformity with this plan, during 1980, the final year of the Tenth Five-Year Plan, the collectives of organizations and enterprises of the ministry must solve a number of important and complicated tasks associated with the placing in operation of new production capabilities for all branches of the national economy and they must ensure completion of the increasing volumes of sub-contractual work and the tasks for further raising labor productivity and lowering output costs.

The carrying out of all of these tasks requires the unconditional removal of existing shortcomings, improvements in the utilization of labor and material and technical resources and monetary funds, a maximum acceleration in technical progress, the use of organizational and technical methods which will ensure strong improvements in production efficiency and the quality of work, a reduction in the schedules for completing construction on underway projects and achieving improvements in all of the technical-economic indices. This requires a considerable intensification of economic work, more careful and thorough analysis of the production-economic activities of organizations and enterprises and the mobilization of their collectives for the purpose of exposing and utilizing hidden production reserves.

In 1980 the organizations of the ministry, together with the construction organizations, must ensure the placing in operation of more than 800 large industrial complexes, including approximately 130 in the metallurgical industry, more than 100 chemical production efforts, approximately 60 petrochemical and petroleum refining complexes, more than 250 large machine-building departments, approximately 100 projects of the construction industry and a large number of projects of the light, food and other branches of industry. The greatest increase in work volumes will take place in the regions of Berezniki, Perm', Kemerovo, Noril'sk and Cherepovets.

During 1980 the ministry's organizations must perform a great amount of work in connection with external economic contacts. A considerable number of projects must be placed in operation abroad and metal structures, machines, mechanisms, electrical installation items, control instruments and automatic equipment must be manufactured and made available for these construction projects.

The successful carrying out of the planned tasks for 1980 requires further and persistent work on the part of the collectives of all of the ministry's organizations and enterprises with regard to accelerating technical progress, implementing improvements in production organization and control and a good and extensively organized socialist competition.

A mandatory condition for solving the principal task -- the timely and ahead-of-schedule placing in operation of industrial projects -- is that of unconditional fulfillment of the tasks embodied in the plan and particularly the plan for sub-contractual work. For all trusts and administrations which failed to fulfill this task, specific and well thought out measures that are based upon a thorough analysis of the work of these organizations and aimed at radically improving their activities must be developed.

Despite positive operational results for the ministry on the whole, in developing and introducing scientific and engineering achievements into daily practice, serious shortcomings still persist in this sphere. Not all of the organizations are carrying out fully the tasks of the technical plans, the introduction into construction practice of progressive achievements by scientific-research institutes is being delayed and some enterprises continue to use obsolete technological methods and processes. This underscores the fact that not all of the technical leaders of organizations and enterprises are actively participating in the work of accelerating technical progress.

The economic, party, komsomol and professional trade union leaders must carry out their ideological and political-educational work in conformity with the decisions handed down by the party and acheive a situation wherein each specialist creatively solves the problems concerned with improving production operations, persistently introduces new equipment and progressive technologies into operations and participates in efficiency promotion work. All workers must be imbued with a sense of responsibility for fulfilling their technical plans, with high ideological convictions and principles, with irreconcilability to any and all manifestations of technical conservatism and routine and with a desire to promote by virtue of their personal endeavors accelerated technical progress and improved labor productivity. A greater role must be played by the technical soviets of organizations and enterprises, by the public committees for promoting technical progress and by the councils of efficiency experts and inventors and greater attention must be given to technical information.

The principal trends in technical progress must be developed for each type of work being carried out by organizations of the ministry. Improvements in mechanical-installation work must proceed along the lines of a further expansion in the introduction of large-unit installation of equipment and pipelines. Towards this end, in particular, work must continue in connection with the preparation and practical implementation of technical conditions for deliveries of technical equipment having a high level of plant installation readiness. The planning institutes of mechanical-installation main administrations must play a leading role in the carrying out of this work.

Many installation organizations have developed and are introducing a number of efficient mechanisms and devices which raise labor productivity considerably. This includes various machines for manufacturing pipe items, for processing and welding plastic pipe, mobile liquid lubricant stations, start-up electrical units for testing equipment devices and laser geotechnics. The introduction of these mechanisms and devices into operations is slowing down owing to shortages. A requirement exists for organizing their centralized production in the required amounts.

In connection with improving operations with regard to the installation of metal and reinforced concrete structures and raising labor productivity, priority importance is being attached to improving the organization of labor for the installation workers. Considerable improvements must be realized in the engineering preparation of projects for installation work, leading methods for labor organization must be introduced on a more extensive scale, particularly the brigade contract method, stronger contacts must be developed with the planning organizations for the planning stage for projects and the general contractors must carry out their construction work in a timely manner and in conformity with the existing norms.

A priority task is that of converting over from welded to bolted joints. The solving of this task requires a reworking of the standard plans for metal structures; they should provide for the use of joints based upon high-strength bolts, the mastering of the production of metal structures which include bolts and the development of a technology for installing them, the training of workers and engineering-technical personnel and the ordering and obtaining of the necessary instruments. Further improvements must be achieved in the conveyer method and in the large-unit installation of surface structures, while achieving standardization of structures and installation equipment. In 1980, work must be completed on the development of standard plans for the coverings of single-story production buildings involving the use of wide-flange I-beams and bent-welded pipe of rectangular cross-section. A reduction can also be achieved in the labor-intensiveness of installation work through deliveries of metal structures of raised plant readiness. The metal structure plants must convert over completely to delivering beams in units and, together with arresting structures, expand the nomenclature of structural elements supplied with a raised level of plant readiness.

In connection with implementing improvements in electrical installation work, first place continues to be occupied by work carried out with supplier-plants for raising the level of plant and installation readiness of electrical equipment, the carrying out of work independent of the construction readiness of the buildings, by means of an expansion in the use of spacious electrotechnical facilities, the centralized manufacture of standard electrical installation billets and their container delivery to the installation sites and the extensive use of polymer pipe instead of metal pipe.

The installers of instruments and automatic equipment must intensify their work with technological and specialized planning organizations so as to ensure that the plans call for everything that is required for the installation of automatic systems, the installation of structures and units and the equipping of blocks of technological equipment with instruments and sensitive elements. Provision must be made for the immediate construction of operator facilities, trestles and tunnels, in the interest of ensuring completion of the installation of automatic equipment independent of the technology and rates for the installation of equipment and more extensive use must be made of complete facilities for the sensitive elements and operational equipment and also non-pipe installation of electrical wiring.

Based upon further standardization and unitization of installation parts, the installers of sanitary-engineering and ventilation systems must convert over to the flow line mechanized production of billets, with use being made of highly productive mechanisms and automatic lines. In addition, progressive structures, flexible air lines and pipe made out of polymer materials should be introduced into operations on a more extensive scale and sanitary-engineering equipment should be supplied for installation purposes in large assembled blocks.

The principal task in the sphere of heat insulation work is that of raising in every possible way the level of industrialization, creating highly productive flow lines for the production of completely prefabricated and complete industrial structures and organizing container deliveries of such products to the construction sites. A requirement exists for the extensive introduction of panel and block structures made out of heat-resistant and fire-resistant concrete, instead of light-weight fire-resistant units and also industrial materials and large ceramic blocks in anti-corrosion operations.

The collectives of organizations engaged in special construction work must implement measures aimed at mechanizing work associated with the sinking of small diameter mine shafts, using light-weight structures in the construction of temporary mining buildings above the shafts, the complete mechanization of drilling and blasting operations and the introduction of sliding falsework when erecting conical reinforced concrete pipe.

The level of manual labor is still quite high among the ministry's organizations. In many instances, insufficient use is being made of the installation equipment and the intra-shift periods of idle time for the construction machines amount to an average of 17-18 percent for the ministry, owing mainly to shortcomings in the organization of the work. The organizers of production must display greater responsibility with regard to the utilization of the installation equipment, the work of concentrating the principal mechanisms in special mechanization administrations must be further stimulated, improvements must be carried out in the organization of capital repair work and specialized repair enterprises must convert over from the carrying out of light series to large series repair work. The production of special installation instruments and light mechanization equipment must be increased and the capabilities of the Kropotkin plant must be developed more rapidly.

A most important source for raising production efficiency is that of improving the utilization of the capabilities of industrial enterprises and raising the coefficient for shift work. This year and also during the Eleventh Five-Year Plan, special attention must be focused on the technical re-equipping of existing enterprises based upon the latest equipment and technologies and measures must be carried out aimed at increasing their capabilities, in accordance with detailed computations that are based upon the data furnished in the factory certificates. During 1980, such factory certificates must be developed for all industrial enterprises.

Nor do the measures enumerated above constitute all of the principal trends for technical progress in installation and special construction work during the next few years. Work must be completed this year on the development of the principal trends for technical development during the Eleventh Five-Year Plan, trends similar to those which have existed during this present five-year plan. These trends must call for the introduction of more effective scientific and engineering achievements, that will ensure intensive growth in labor productivity.

An important reserve for reducing the work schedules and raising labor productivity is that of improving labor organization, achieving more rational use of labor resources and lowering the losses in working time. The methods for solving this most important task include: well thought out and timely implementation of engineering preparations for production, properly organized tool department, the introduction of progressive forms for wages, raising the role played by a brigade leader, strengthening labor and production discipline and releasing line engineering and technical personnel from having to perform supply functions.

A brigade contract plays an important role in solving these tasks. With each passing year, the volume of construction-installation work being carried out in organizations of the ministry using the brigade contract method is increasing. Although it increased by 60 percent during 3 years of the Tenth Five-Year Plan, it nevertheless constituted only 40 percent of the overall volume of work carried out. Moreover the figures for such work differ strongly among trusts of the same profile. For example, at the Yugovostoktekhmontazh Trust it amounted to 48 percent, at the Dal'tekhmontazh Trust -- 18 percent, at the Yugovstokstal'konstruktsiya Trust -- 40.3 percent and at the Stal'konstruktsiya Trust -- 20.6 percent. These figures indicate that insufficient attention is being given to this important problem by some leaders. The brigade form must become the foundation for organizing and stimulating labor during the Eleventh Five-Year Plan.

Improvements in the organization of labor are directly associated with the setting of norms for labor. Proper organization in the setting of norms for labor is ensured not only by the establishment of technically sound norms but also, to a considerable degree, by their correct use. However, work orders are still not being issued in a timely manner in all of the organizations, supplements are attached to the work orders, the working conditions are complicated artificially, the norms and rates are used incorrectly and the actual time worked is not recorded properly on the time-sheets. As a result, the workers are less active with regard to searching for reserves for increasing labor productivity and making efficient use of their working time.

Under these conditions, the role played by standards-research stations is raised. It bears mentioning that there are 36 NIS's [standards research station] in the ministry's system, with more than 800 workers assigned to them. Such stations as NIS-6 (attached to the Vostokmetallurgmontazh TrustO and NIS-9 (attached to the Tsentroelektromontazh Trust) and some others, by virtue of their work, actively promote improved labor organization. In addition to problems concerned with norms and rates, the NIS workers must check the work orders, ascertain the causes of losses in working time and develop proposals for eliminating such causes. The TsNIB [Central Office of Standards Research] must display greater activity and persistence in achieving improvements in the work of subordinate NIS's.

This year the organizations of the ministry must carry out a great amount of responsible work in connection with implementing the resolution of the CPSU Central Committee and the USSR Council of Ministers entitled "Improving Planning and Intensifying the Effect of the Economic Mechanism With Regard To Raising Production efficiency and the Quality of Work. The placing in operation of production capabilities and projects is becoming the principal index for planning and evaluating operational results and stimulating construction-installation organizations. A certain amount of operational experience in the use of this index has been accumulated in the ministry. As is known, the installation ministries of Belorussia, the Ukraine and Uzbekistan work in this manner. A detailed study and further development of this operational method and the converting over to accounts for a completed project -- such is the task of all services for the ministry's organizations, particularly the planning-economic services. Those questions concerned with the implementation of these and a number of other measures, as called for in the decree of the CPSU Central Committee and the USSR Council of Ministers, must constantly be the object of attention by the leaders of the ministry's organizations and enterprises.

In speaking before the November (1979) Plenum of the CPSU Central Committee, the General Secretary of the CPSU Central Committee and Chairman of the Presidium of the USSR Supreme Soviet, Comrade L.I. Brezhnev, stated: "All of our efforts must be directed towards mobilizing the workers for the purpose of fulfilling the tasks of the last year of the five-year plan. The tasks of the 1980 plan are by no means simple. But they must be carried out and exceeded. What is required in order to do this? An atmosphere of high exactingness, organizational ability and a creative attitude towards work must be created in all sectors of the national economy and in each production unit."

In the aktiv of collectives of the ministry's organizations and enterprises, there are many examples of the successful fulfillment of great and complicated tasks associated with the placing in operation of large production capabilities for the national economy. During the final year of the Tenth Five-Year Plan, while making preparations for the 26th CPSU Congress, all collectives of organizations and enterprises of USSR Minmontazhspetsstroy without exception are obligated to achieve stable fulfillment of the tasks set forth in the plan. They have all of the means at their disposal for accomplishing this.

COPYRIGHT: Stroyizdat, 1980

7026
CSO: 1821

CONSTRUCTION

MEASURES FOR IMPROVING PRODUCTION, QUALITY OF WORK

Moscow MONTAZHNYYE I SPETSIAL'NYYE RABOTY V STROITEL'STVE in Russian No 11, Nov 79 pp 2-4

[Article by I.A. Mekryukov, deputy minister for installation and special construction work for the USSR: "Raising Production Efficiency and Work Quality"]

> [Text] "A requirement exists first of all for bringing about strong improvements in planning. Our country was the first to follow the path leading to planned management of the economy. Scores of other states are learning this complicated art from us. However, we are presently confronted with the task of raising the level of planning work and of carrying out such work in conformity with the new scales and appearance of our economy and the new requirements of the time."
>
> From the Summary Report by L.I. Brezhnev
> To the 25th CPSU Congress

The decree entitled "Further Improvements in the Economic Mechanism and the Tasks of the Party and State Organs" has been adopted by the CPSU Central Committee. The principal trends for improving economic operations, under the conditions imposed by developed socialism, were defined during the 25th party congress and plenums of the CPSU Central Committee and also in articles of the USSR Constitution. In conformity with these trends, on 12 July 1979 the CPSU Central Committee and the USSR Council of Ministers adopted the decree entitled "Improvements in Planning and Intensifying the Effect of the Economic Mechanism With Regard To Raising Production Efficiency and the Quality of Work." This decree was directed towards further improving and intensifying the planned management of the economy and the development of democratic principles in control and creative initiative in the labor collectives, so as to ensure further economic growth for the entire national economy, through the intensive development of production based upon the extensive use of scientific and engineering achievements.

The intensive development of the national economy requires thorough knowledge of the prospects for the future. Thus an important part of the decree is the question of further improvements in long-range planning and converting the five-year plan into the principal form for planning the national economy and the activities of each enterprise.

The five-year plan is becoming the foundation for the economic activities of all enterprises, associations, organizations and departments. An increase is taking place in the requirements with regard to the interrelationships between the five-year plan and the annual plans, the composition of which starts from below, in the organizations and enterprises, with the reserves uncovered by the socialist competition and the counter-plans being taken into account.

It was established in the decree that an evaluation of fulfillment of the five-year plan at all levels must be carried out in the form of a cumulative total from the beginning of the five-year plan. This means, for example, that if the work carried out on a given construction project during the past year was less than the amount called for in the annual plan, then the difference must be made up the following year using material-technical resources and reserves of the ministries and departments that were not used earlier.

In the decree of the CPSU Central Committee and the USSR Council of Ministers, a great amount of attention is focused on those problems concerned with improving capital construction. Nor is this an accident. As mentioned during the 25th CPSU Congress and subsequent plenums of the CPSU Central Committee, capital construction is troubled by serious shortcomings which are lowering the effectiveness of capital investments and all social production. The normative and planned schedules for construction and for placing production capabilities in operation are not being followed, equipment and resources are being dispersed among numerous projects and the volume of unfinished work is increasing. The resolution sets forth a system of measures aimed at eliminating these shortcomings.

One very important task is that of developing a stable five-year plan for capital construction, with a distribution by years. The five-year plan must be carefully balanced with the material resources, technological and power engineering equipment, labor and financial resources and with the capabilities of the construction-installation organizations. The principal index for planning and evaluating the work of construction organizations is the placing in operation of production capabilities and projects. For the organizations of USSR Minmontazhspetsstroy [Ministry of Installation and Special Construction Work], the plan for placing facilities in operation includes those production capabilities and projects where the main items of technological and power engineering equipment are installed by contractual organizations of the ministry and included in the plans for placing capabilities in operation for the general contractors.

Within the system of planning and evaluative indices for the work of construction organizations, another index will be introduced -- marketable construction output, that is, the value of the construction-installation work by enterprises, projects and complexes under construction, prepared for the production of goods and delivery to the client. The organizations of the ministry have accumulated a certain amount of operational experience in terms of this index. Minmontazhspetsstroy for the Belorussian SSR is in its fourth year of work in this regard and Minmontazhspetsstroy for the Ukrainian SSR and the Uzbek SSR and individual construction-installation organizations of main administrations -- in their third year.

However, experience has shown that work carried out by organizations using this system did not produce the desired results owing to a number of unresolved problems. The executive organizations determined the marketable output plan themselves, the planning organs did not plan the marketable output for the ministries and the client did not participate in the formation of the plan for marketable construction output. The index for marketable construction output will now be planned for all those participating in construction and the construction-installation organizations will be oriented mainly towards the timely placing in operation of production capabilities. An immediate task is that of developing methodological instructions and a method for determining marketable construction output, while taking into account the specific nature of the work being performed by the construction-installation organizations.

A new factor included in the decree is that of approval of a limit for state capital investments and construction-installation work, stable for 5 years and not subject to review in the annual plans. Approval of a limit instead of a volume of capital investments changes substantially the technology for planning in construction. A limit is a resource index which describes the maximum amount of capital investments required for the planned placing in operation of enterprises and capabilities and for the creation of normative stockpiles.

The task of ensuring a stable capital investment plan throughout the course of a five-year plan is a complicated problem. The solving of this problem requires a basic change in the organization of planning work by the construction-installation and planning-research organizations of the ministry. The planning of capital investments, the carrying out of construction-installation work, deliveries of technological equipment, structures and materials and so forth, are no longer limited to the terms of an annual plan but rather they will be carried out throughout the entire construction period for a complex, right up until it is finally placed in operation. The principal form of financing will be bank credit, with use being made for this purpose of funds released by the clients in connection with converting over to accounts in the absence of intermediate payments.

The resolution calls for the introduction of accounts between the client and the contractor, during 1981, for complexes that are fully completed and turned over for operation, in accordance with the estimated cost of the marketable construction output. This is not a simple task for the ministry's organizations. The marketable construction output of a subcontracting organization is a part of the marketable construction output of a general contracting organization. The immediate task of our ministry is that of developing methodological instructions and a method for determining the marketable construction output, while taking into account the peculiarities and specialization of the installation organizations.

In the resolution of the CPSU Central Committee and the USSR Council of Ministers, a great amount of attention was given to accelerating scientific-technical progress. Methods for achieving this goal are pointed out in the resolution -- rational utilization of all means at the disposal of the national economy, reliance upon intensive growth factors and concentration of resources for the fulfillment of state special purpose programs. The entire increase in the volume of construction-installation work to be realized in the next few years must be supported by raised labor productivity, rational and economic use of labor reserves and by an acceleration in scientific-technical progress.

In August 1979, the board of the ministry approved a program of measures aimed at raising the technical level of installation and special construction work. The task consists of ensuring the efficient, accurate and timely execution of this program by all of the ministry's organizations and enterprises. Any proposal for making use of a particular technical innovation or for improving labor organization must be analyzed from the standpoint of its effectiveness prior to being included in the program. Computations must be carried out with a maximum degree of accuracy on the results to be realized from a particular proposal and on the manner in which it will affect labor productivity. First of all, effort will have to be concentrated on introducing proposals which produce the greatest results. New equipment must be introduced mainly for large-scale operations. A great amount of attention must be focused on the complete mechanization of the more labor-consuming operations, equipping the installation workers with the required instruments and means for light mechanization and organizing good instrument economies.

The level of industrialization exerts a direct effect on labor productivity. In turn, this signifies a need for improving the work of the ministry's industrial enterprises and increasing the production of goods and improving their quality. It is stipulated in the decree of the CPSU Central Committee and the USSR Council of Ministers that the ministries and departments are obligated to develop, in the draft five-year plan, planning balances and accounts for the utilization of available production capabilities and fixed capital.

In this regard, the collectives of industrial enterprises must ensure increased control over the use of production capabilities and develop proposals for a build-up of such capabilities, based upon economic and engineering computations and in conformity with the passports for each enterprise. Such passports must be developed no later than 1980.

An increase in capabilities through the technical re-equipping and modernization of existing enterprises is called for when planning the introduction into operations of fixed capital, production capabilities and projects. Capital investments, materials and resources must be made available in a more bold manner for the modernization and technical re-equipping of existing enterprises, based upon the use of modern equipment, and capital investments should be made available for new construction only when full use is being made of the existing capabilities at similar enterprises. When planning new and modernizing existing enterprises of the ministry, the plans must include a highly efficient production technology consisting of new equipment that will ensure the production of goods of a high technical level and quality.

The decree of the CPSU Central Committee and the USSR Council of Ministers is introducing a new system of planning indices for all levels of management. In the interest of eliminating the negative aspects of the overall indices, a basically new solution is being employed for the problem concerned with planning overall production volume from the standpoint of cost. A gradual conversion will be carried out over to the extensive introduction of a net output index which, distinct from gross and marketable output, does not take into account the cost of the raw materials, materials and component items, while at the same time it measures more accurately the contribution made by each enterprise and each branch towards increasing the country's national income. The index for net output will serve as the basis for planning an increase in labor productivity, the limit for the number of manual and office workers and also for the formation of the wage fund.

The decree calls for a system of measures for strengthening direct economic contacts and contractual relationships and the proposal is made to complete, during 1980, the conversion of production enterprises over to direct and extended economic contacts. The creation of material reserves is called for in order to ensure stability for the state plans for economic and social development. This will require basic changes in the formation of balances and more clear definition of the sources for developing reserves and the method for utilizing them.

The organs of supply must develop a system of measures for developing direct and extended economic contacts between the ministry's enterprises and the consumers -- construction-installation organizations -- and proposals must also be prepared for strengthening the regime for realizing economies in the use of materials at organizations and enterprises of the ministry. The leaders of organizations must devote special attention to fulfilling the norms for expenditures and the tasks for economizing in the use of fuel, electric power and thermal energy.

The practical organization of planning and management, in conformity with the decree of the CPSU Central Committee and the USSR Council of Ministers, requires the development of a number of instructions, statutes, directions and normatives. The new methods for planning and management must be reflected in the methodological documentation and in the forms and indices for the plan. A considerable number of normative documents must be prepared. The collectives of all subunits, enterprises and organizations of the ministry must participate in this work. The schedules for preparing these documents are extremely limited and they must be adhered to in a very strict manner.

A great amount of work remains to be carried out throughout the oblast in connection with the preparation of new instructional materials, normative documents and methodological instructions, all of which must be created taking into account the operational peculiarities of our ministry. A normative base must be created for the intelligent planning of marketable construction output, labor productivity, profits, the wage fund, the funds for economic incentives and a number of other indices.

The implementation of a complex of measures aimed at improving the economic mechanism requires a great amount of organizational and explanatory work and also daily attention. In this regard, a greater role is now being played by the system for providing the personnel with economic training. At the present time the party, economic, professional trade union and komsomol organizations in the various areas and in the central apparatus of the ministry are completing their preparations for the new training year, in connection with the system of political, economic and komsomol training. The new training year must be used in an active manner for thoroughly studying the decree of the CPSU Central Committee and the USSR Council of Ministers. The specific task consists of ensuring that the ideas and statutes of this document and the knowledge of the problems and means and methods for improving the economic mechanism be made available to all of the ministry's workers -- from the leader down to the last worker.

Each worker must be made aware of the fact that the entire complex of measures developed by the party and government is directed mainly toward achieving the principal goal of social production -- the most complete satisfaction of the material and spiritual needs of the Soviet people. During the course of studying the decree, the party organizations must activate the work of the agitators, political information specialists and propagandists, whose responsibility it is to disclose the essence of the party's decisions in a thorough, intelligent and clear manner.

In the conduct of economic training and its effectiveness and coordination with the specific work carried out by subunits and the vital tasks and works of subordinate collectives, the principal role must be played by the leaders of the main administrations, administrations, associations, trusts, installation administrations and organizations. Appropriate training plans and programs are presently being developed; they will be made available to all organizations of the ministry.

We must publicize extensively the leading experience accumulated in raising production efficiency and the quality of work, emphasize in a systematic manner the practice of improving the economic mechanism and reveal the experience accumulated in the use of new methods in the ministry's journal, in publications of TsBNTI [Central Office of Scientific and Technical Information] and at exhibits. Tasks resulting from the decree should be raised for discussion by the boards of the republic ministries and also at meetings of the aktivs of enterprises and organizations.

The implementation of the measures outlined by the party requires substantial changes not only in the work of the planning organs and organs of control but also in the activities of the production collectives. The orientation over a period of many years of enterprises and organizations towards the fulfillment of quantitative indices has up until now affected the consciousness of many workers. At the same time, it will be impossible to work in the old manner under the new conditions. The conversion over to qualitative indices requires surmounting of the inertia of economic thought and more intense efforts aimed at raising production efficiency.

The introduction of new forms and methods for planning requires a definite reorientation of the views held by economic personnel and all workers attached to enterprises and organizations. Here stagnation and adherence to old methods are unacceptable. The task of the party organizations and economic organs consists of doing everything possible to overcome the obsolete work methods. This work must be directed mainly by the communists.

"Today the activities of all party organizations and all members of the party are based upon one main principle -- to mobilize more completely the creative forces of the people and to find and place in operation new reserves for economic growth. The system of measures called for in the decree of the CPSU Central Committee and the USSR Council of Ministers is aimed at solving this important task, which was formulated by the General Secretary of the CPSU Central Committee and Chairman of the Presidium of the Supreme Soviet of the USSR, Comrade L.I. Brezhnev.

There can be no doubt but that the collectives of organizations and enterprises of USSR Minmontazhspetsstroy are undertaking all of the required measures aimed at implementing the decree of the CPSU Central Committee and the USSR Council of Ministers.

Copyright: Stroyizdat, 1979

7026
CSO: 1821

CONSTRUCTION

UDC 64:658.5

IMPROVEMENTS IN CONSUMER SERVICES IN MOSCOW DESCRIBED

Moscow GORODSKOYE KHOZYAYSTVO MOSKVY in Russian No 1, Jan 80 pp 24-26

[Article by B.Ye. Samarenko, chief of the Consumer Services Administration for the Population of the Executive Committee of the Moscow City Soviet of Workers' Deputies: "Hundreds of Important and Fine Services"]

[Text] During the past few years, a number of measures have been carried out in Moscow aimed at further developing consumer services in the capital -- an important branch of the municipal economy. During 3 years of the five-year plan, 306 enterprises were placed in operation, mainly in areas of new housing developments, including: 65 workshops for the repair and sewing of footwear and leather fancy goods, 80 workshops for the repair of household machines, instruments and metal items, 38 barber shops, 18 photography studios, 32 salons and rental points. In March 1979, the first house of consumer services in Moscow entered operations on Novoslobodskaya Street.

In the interest of eliminating primitive work methods and replacing them with modern industrial methods, active work is being carried out in all of the administration's production associations and enterprises in connection with the mechanization and technical re-equipping of enterprises, intensification of specialization, consolidation of small workshops and reducing their number and creating in their place specialized production efforts which operate on an industrial base. Thus, four flow-line mechanized lines for the capital-restoration repair of refrigeration units, a mechanized line for the capital repair of washing machines and a flow-line for the repair of vacuum cleaners were placed in operation at Mosremelektrobytpribor [Moscow Plant for the Repair of Electrical Household Appliances] and a specialized salon for the repair of amateur movie equipment and optical-mechanical instruments, for 25 working positions, was opened. The introduction of new equipment and a leading technology made it possible to organize, in subunits of the plant, the capital restoration of units and parts for different types of household appliances.

At Mosremchas [Moscow Watch Repair Plant], in addition to the departments which existed earlier for the repair of wrist watches, a specialized department for the flow-line operational repair of alarm clocks, a workshop for the repair of electronic watches and a department for the repair of large and antique clocks were organized; special sections were created for the production and framing of glass, for the restoration of the faces on wrist and pocket watches and for restoring the electrical units in the Slava electronic alarm clocks.

At plants for the repair of metal products, special workshops have been created for repairing bicycles, sewing machines and motor vehicle batteries and also a department for the production of keys and various supplies for the repair of umbrellas.

At the Trud Production Association for the repair and sewing of footwear, in addition to further development of completely mechanized workshops for the rapid repair of footwear, which have become very popular among Moscow residents, seven conveyer lines have been equipped for large-scale and medium repair work and two lines having a division of labor and mechanized operations for the sewing of footwear -- for individual orders.

At enterprises of the Mosgorbytmebel' Production Association, new technological equipment has been installed for the production of furniture, for the cold treatment of glass and for the production and restoration of mirrors using the aluminization method.

At enterprises of Fotokinoob"yedineniye, a flow-line has been introduced for the processing of color photography materials and highly productive continuously operating developing machines for photocopying and equipment for the automatic processing of film have been installed.

In all, during 3 years of the five-year plan, 4,924 units of new technological equipment and 3,864 units of light mechanized equipment were installed at enterprises of the administration. This made it possible to introduce 32 new technological processes for the repair of footwear, furniture, refrigeration units, washing machines, electric shavers, electronic watches and other instruments.

But greater results are being achieved not on the basis of just one item of equipment or technology. An entire complex of measures is being implemented in the labor collectives aimed at raising the level of organization, culture and the quality of services being made available to the population, satisfying more completely the requirements of the workers and reducing the amount of time spent by Moscow residents in obtaining consumer services. At enterprises of the administration, such convenient forms of services for the population as the receipt and delivery of orders to a home or at the work place of workers, a feature which is especially suitable for working women, are being further developed.

During 3 years of the five-year plan, enterprises of the administration accepted and carried out 2.58 million orders at the house and 2.69 million orders at the work places of workers, representing an overall total of approximately 17 million rubles. In 1978 alone, more than 350,000 refrigerators were repaired for the population at the house, or 82 percent of the entire number of orders, approximately 45,000 washing machines, or 87 percent of the orders and more than 19,000 music instruments, sewing machines and large clocks. An increase took place in the number of shoe repair orders carried out on a rapid basis and also household appliances and other types of services.

Improvements are also being realized in other forms of services for the population. Complex subscriptions are being introduced for the repair and technical servicing, at the House of Instruments, of household appliances and typewriters and for the cleaning of apartments. For the purpose of providing operational services for new settlers, 26 brigades have been created in a combine of the Zarya Association for the equipping of apartments. As a rule, these brigades carry out requests for services on the same day that they are received. In 1978, these brigades carried out more than 17,000 requests for various types of work at new construction buildings. A noticeable increase took place in the number of services rendered by workers of the Zarya Association in connection with polishing floors, cleaning windows and apartments, caring for children, invalids and elderly persons, delivering gifts and so forth. Approximately 1 million such services were provided for Moscow residents during 1978.

We are devoting special attention to the quality of the work being carried out. A dispatcher service has been created for the Zarya Association and its departments for the purpose of exercising control over the handling and timely and high quality completion of all orders received from the population and, in a addition, a quality control system is being developed and introduced into operations. The plans call for this system to be fully introduced into operations at all enterprises of the Trud Association by the end of the year. Similar work is being carried out at other consumer services industrial enterprises.

For customer convenience, we are increasing the number of workshops and receiving points operating on a one and a half shift basis, with no interruption for dinner and no days off and we are increasing the new types of services. At the present time, our enterprises are providing more than 500 different types of services daily for 400,000 residents of Moscow and guests of the capital.

Our best receiving points and workshops are deserving of special mention. Here the orders are being carried out in a timely and high quality manner and at the same time the customers are being treated in an attentive and courteous manner. This includes salons for the repair of movie equipment at No. 8 Street of the Cosmonauts, the production and repair of jewelry items at No. 24 Frunzenskiy Embankment and the acceptance of orders for the production of furniture at No. 18 Onezhskaya Street. Enjoying great popularity among the population are such facilities as a recently opened shop for the processing of color photography materials at No. 14 Serpukhovskiy Embankment, Footwear Workshop No. 15 at No. 6 Degtyarnyy Lane and many others.

There are many fine specialists at our enterprises who have spent all of their working lives performing work in the sphere of consumer services. This includes holder of the Order of Lenin and the Badge of Honor, leader of a brigade of carpenters at Furniture Factory No. 1 A.N. Inozemtsev, holder of the Red Banner of Labor and mechanic at the Mosgorrembyttekhnika Association V.A. Minkin, a footwear cutter of the Trud Association, R.N. Ivanova, who was awarded the Order of Labor Glory 3d Degree, and others. More than 1,000 consumer services in Moscow have already fulfilled their personal five-year plans.

A number of measures are serving to improve the quality and culture of the services being made available for the population: the holding of regularly scheduled production conferences in the associations involving the participation of scientific-research and planning-design organizations, exhibit-reviews of new models of products produced by enterprises of the administration in response to orders from the population, regular and correspondence conferences held with the customers and rayon and municipal competitions for barbers and specialists in decorative cosmetics.

However, it bears mentioning that despite the positive operational results achieved by the administration's enterprises, serious shortcomings and omissions are still taking place. Full use is not being made of the internal reserves and potential of the consumer services enterprises for increasing the volumes of consumer services or raising the level of services for the population. There are still workshops, barber shops and photography studios which are not carrying out their planned tasks in a rhythmic manner.

Just as in the past, a weak area in the work being performed by the service enterprises continues to be the quality of that work and the culture of the services provided. Quite often the workers are being criticized, and justly so, for disruptions in the schedules for their work, for the low quality of the work carried out and for poor relationships with the customers. These rather considerable shortcomings and unresolved problems of the consumer service were quite properly mentioned during the 23d Conference of the Moscow Municipal Organization of the CPSU.

The administration and the collectives of its associations and enterprises are striving to correct these shortcomings and they are raising their exactingness with regard to the leaders of subordinate enterprises and officials for their assigned tasks. In addition to material punitive measures (deprivation of bonuses, transfers to less skilled work and so forth), measures of an educational nature are also being employed against non-conscientious workers. In particular, we are striving to ensure that each incident involving a violation is thoroughly discussed in the collective. This method is producing very fine results. The movement aimed at developing a communist attitude towards labor, in which 29,000 individuals are participating at many enterprises, is promoting to a considerable degree organizational and educational work in behalf of improved services. At the present time, the collectives of the administration's associations and enterprises are making preparations to provide services for the participants, guests and tourists associated with the 1980 22d Olympic Games to be held in Moscow. Taking into account the many years of experience accumulated in organizing consumer services for Soviet and foreign delegates and guests of various all-union, republic and international congresses, sessions, congresses and festivals, an organizational structure and system of procedures have been developed and approved for providing consumer services for the officials, journalists, guests and tourists associated with the 1980 Olympic Games. Complete consumer services bureaus are being created in the hotels and dormitory facilities where the Soviet and foreign guests will reside. The workers assigned to these bureaus will accept orders and ensure that they are carried out by consumer services enterprises especially created for this purpose, they will establish control over the quality of the work and the completion schedules, maintain accounts and they will issue the finished orders in special firm packaging.

The personnel for these consumer services bureaus will be selected from among the more skilled workers. Special training programs will be organized for them. The provision of services to and the carrying out of orders for those participating in the 1980 Olympic Games and also guests will be the responsibility of 471 consumer services enterprises throughout the city and they will furnish 24 types of services. Of this number, 303 enterprises are subordinate to the Consumer Services Administration of Mosgorispolkom [Executive Committee of the Moscow City Soviet of Workers' Deputies]. The periods of time for carrying out the orders of participants in and guests of the 1980 Olympic Games must not exceed 3 hours in the case of light repairs and for complicated repairs -- 24 hours.

Construction work has been completed on the House of Consumer Services in the Olympic Village. This area will contain various workshops and studios, a hairdressing salon and a photography studio. A complex of measures has been developed and is being implemented for the repair, placing in order, technical equipping and design of enterprises tasked with carrying out the orders and providing services for the participants and guests of the 1980 Olympic Games and ensuring that they are supplied with the materials, spare parts and accessories required for the high quality and rapid completion of orders.

Following the completion of the 1980 Olympic Games, the capital's consumer service will undergo still further expansion and modernization. A long-range plan is being completed for the development and disposition of consumer services enterprises for the population for the period up to 1990.

The plan calls for the elimination of small enterprises that were located without taking into account the planned structure for the city, by enlarging the capacities of the facilities and achieving maximum cooperation in the types of services and also for the building of standard sectional buildings for the House of Consumer Services in the centers of planned zones and housing developments.

The plans call for the construction of buildings of a productive nature in the communal and production zones of Moscow: factories for the sewing and repair of footwear, for the production of non-standard furniture, plants for the repair of household appliances, metal items and musical instruments, bookbinding factories, pawnshops, buildings of Mosgorspravka [Moscow City Reference and Information Office] and a number of other enterprises.

Construction is presently being carried out on a plant for the flow-line operational repair of watches, on a plant for the repair of organizational equipment and on a central photography and movie laboratory. The plans call for these facilities to enter operations in 1981 and 1982. In all, the plans call for consumer services enterprises for the population to be built for 17,500 working positions prior to the end of the accounting period.

An increase in the production capabilities and a strengthening of the material-technical base will make it possible to increase considerably the volume of consumer services made available to the population. In the interest of satisfying more completely the requirements of Moscow residents and guests of the capital, both existing and new types of services will be further developed and improved.

The consumer sercices collective, numbering many thousands of workers, together with millions of other workers in the capital, is actively striving to carry out the task assigned by the party -- to transform Moscow into an exemplary communist city.

COPYRIGHT: Izdaniye Ispolkoma Mossoveta, 1979

7026
CSO: 1821

UDC 69.003:65.014

IMPROVE ADMINISTRATIVE STRUCTURE OF CONSTRUCTION ORGANIZATIONS

Moscow ZHILISHCHNOYE STROITEL'STVO in Russian No 12, Dec 79 pp 2-3

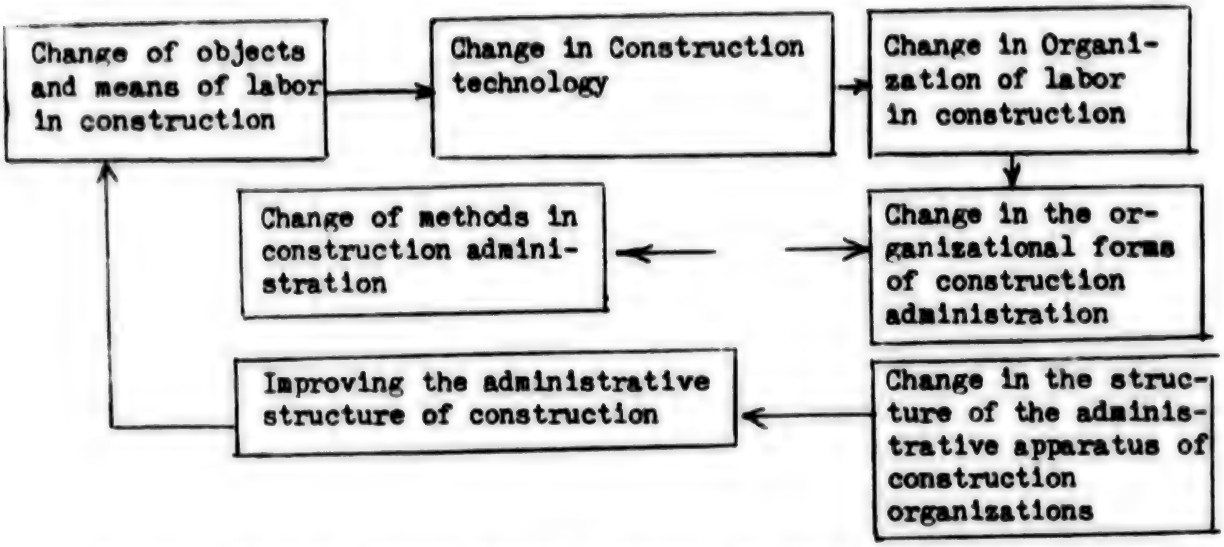
/Article by V. A. Zhukov, Candidate in Economic Sciences, USSR Gosstroy NIIES (Scientific Research Institute on Construction Economics): "Methods for Improving Administrative Structure of Construction Organizations"/

/Text/ The 25th Congress of the CPSU noted that the fundamental task in capital construction is increasing the effectiveness of capital investments, ensuring the further growth and qualitative improvement of fixed assets, the very rapid introduction into operation and assimilation of production capacities, as well as increasing labor productivity in construction by 29--32 percent.

Quite an important role in solving this problem must also be played by housing builders, inasmuch as approximately one-third of the construction organizations are engaged in housing construction; the latter's share in the total volume of construction and installation operations amounts to about 30 percent.

Increasing the effectiveness of capital investments in housing construction depends on the influence of many factors. Among the most important of these one can cite improving the administrative structure of construction organizations.

The administrative structure determines the type of interconnections both within the construction organization as well as among the administrative construction units. By virtue of this it depends both on the organizational forms of the construction organizations as well as on the entire aggregate of methods of administering contract construction. Hence, improving the administrative structure of housing construction must be ensured by improving the organizational forms, methods, and administrative apparatus of construction organizations. Moreover, the sequential order of improving the administrative structure may be represented in the following manner:


Change of objects and means of labor in construction
Change in Construction technology
Change in Organization of labor in construction
Change of methods in construction administration
Change in the organizational forms of construction administration
Improving the administrative structure of construction
Change in the structure of the administrative apparatus of construction organizations

As may be seen from the above chart, a change in the administrative structure of construction depends, in the final analysis, on a change in the organizational forms of construction organizations and the administrative apparatus.

The organizational forms of construction organizations depend on the level of concentration and specialization in construction.

The concentration of construction, as practice in the functioning of construction organizations has shown, yields positive results. Large-scale construction and installation organizations ensure higher technical-economic indicators, created within them are the conditions for a concentration of resources and a better utilization of them, as well as a raising of the level of specialization and labor organization. Analysis of the activity of general-contracting construction trusts tells us that in trusts with an annual volume of operations amounting to 35--40 million rubles the indicators of output exceed by 20--30 percent the output in trusts with a volume of operations as much as 20--25 million rubles. A comparative analysis which was conducted on the technical-economic indicators of the results of the production-management activity of large-scale and small-scale construction and installation administrations demonstrated that in organizations with an annual volume of operations of under 1 million rubles that overhead and administrative management expenses, as well as the number of workers, engineers and technicians, and office personnel, amounting to 1 million rubles of operations carried out, were 1.5--2 times higher than in large-scale organizations with a volume of operations amounting to 3 million rubles and more annually. But the actual production cost of construction and installation operations, in contrast to the estimated cost, was almost 10 percent lower in the large-scale organizations.

It must be noted that the level of concentration should have rational limits beyond which the effect of its introduction is lost. Thus, the NIIOUS (Scientific Research Institute on Administrative Organization in Construction) under the jurisdiction of the MISI (Moscow Order of the Red Banner Engineering and Construction Institute imeni V. V. Kuybyshev) that the optimum volume of operations to be carried out by a general construction SU (Construction Administration) is equal to 5 million rubles per year. Herein an output amounting to 10,200--10,500 rubles per worker per year is attained, and the production cost does not change or is reduced. Under a specialization of more than 70 percent with regard to housing the output with such a volume increases to 11,300 rubles per year. For the SU of the sanitary engineering operations after an increase in the volume of operations of more than 4.5 million rubles, and of the electrical installation operations--of more than 6 million, the output decreases. Thus, it has been established that the volume of operations performed by an SU should not exceed 4.5--5 million rubles per year by its own efforts. Under a specialization of 70 percent or more with regard to housing the volume of operations carried out by a construction organization may be increased to 5.2--5.6 million rubles per year by its own efforts. Consequently, the rational volumes of operations for an SU depend on the level of specialization.

In specialized organizations labor productivity is 10--15 percent higher, and the production cost is 3--5 percent lower than in general construction organizations. From what has been said above it follows that concentration and specialization in construction represent an important reserve for increasing its efficiency. Nevertheless, they must have rational limits, which are defined by the indicators of the results of their activity. On the other hand, these limits may be defined (especially in planning and creating new construction organizations) by the controllability of the construction organization, by which must be understood the capability of the controlling body to react in good time to deviations in the system being controlled and to eliminate them within time periods which do not allow the system to change its normative [plan] indicators of activity).

Controllability may be evaluated by a number of indicators: units of the administrative structure, scope of controls (number of subdivisions subordinated to a higher level), number of connections, level of concentration and specialization, and level of centralization of administrative functions. Improvement of these indicators must also determine the methods of improving the administrative structure of construction organizations in housing construction. It may be attained on the basis of a preliminary analysis of the organizational forms of construction organizations, which should be conducted along two lines: from the point of view of controllability at the structure's formative stage and from the point of view of efficiency at the functional stage of the construction organization. Moreover, the dependency between the results of analysis along these lines must be linear in all cases. At the same time, an analysis of the organizational forms should be used to solve the problem of improving the administrative apparatus of construction organizations, its drawing closer to production and conformity to the production structure. In order to do this, an analysis must be made of the functioning of the administrative apparatus of construction organizations from the point of view of its goals and tasks at each hierarchical level. Needed herein is an analysis of the informational processes taking place under the administration of construction production, the process of adopting solutions by the supervisors of the construction organization and the control over their implementation, along with the interconnections and interdependencies among the administrative functions of construction. Research on the above-mentioned problems must be conducted with consideration being given to their interconnection. Moreover, the following factors are being considered: for which problems has a connection been established, with which structural subdivisions and performers with respect to the horizontal and the vertical, how this connection is expressed: a) by content: subordination, coordination, direction, control, information; b) by method of implementation: conference, commissions, reviews, inspection-type investigations; c) by form: report, account, protocol, instruction.

In improving the administrative apparatus in construction organizations it is necessary to make a precise delineation among the functions of the administrative structure as to horizontal as well as vertical, and this is conditioned by the variety of tasks at each level in the construction administration.

Research conducted by the NIIES has shown that the basic tasks for an SU are introducing projects into operation, fulfilling the technical-economic indicators, ensuring the quality of construction, and fulfilling the plan of the organizational-technical measures; for a trust the basic tasks include coordinating the operations of the SU and the sub-contractors, ensuring the supply of material and technical resources, forming the plan, and the engineering preparation of production; for a main administration such tasks are as follows: forming the plan with the support of material and technical resources and their protection, control over the execution of the plans, developing and implementing a plan for creating the administration's own production base, and control over the quality of the draft-estimate documentation*.

The variety of the tasks presupposes an exclusion of the identity of the subdivisions of the administrative apparatus in the various units of construction production. Nevertheless, at the present time such identity exists with regard to carrying out the functions of planning, and bookkeeping accounting in trusts which have not implemented the centralization of administrative functions. In trusts where this work has been carried out identity has practically been excluded, i. e., technical-economic planning and bookkeeping accounting are performed only at the trust level; in accordance with this, the corresponding sections have been eliminated in the SU. Experience in centralizing functions in construction has already accumulated to the point where, for example, 400 trusts at the present time have centralized bookkeeping sections, while 55 trusts have centralized all the functions of the construction administrations, leaving them only dispatcher service and a personnel section. The number of tasks, as defined by the volume of operations being carried out by a construction organization, as well as the norms of controllability, should also determine the number of construction administrative units; proceeding for the resolutions of the 25th Congress of the CPSU and the decree of the CPSU Central Committee and the USSR Council of Ministers, "On Improving Planning and Strengthening the Influence of the Economic Mechanism on Increasing Production Efficiency and Work Quality," there should be no more than three such units.

---

* This research was conducted on the basis of a questionnaire for scientific workers (trust administrators and SU chiefs). The questionnaire investigation was carried out by the NIIES and the Interdepartmental Institute for Raising the Skills of Supervisors of Construction Organizations under the MISI imeni V. V. Kuybyshev.

Everything stated above testifies to the fact that improving the administrative structure of housing construction encompasses a large complex of problems, part of which have been solved to a limited degree, while part of them still need to be solved. Among the former one may include, in particular, the establishment of rational volumes, the level of specialization in an SU and the organizational forms of construction organizations (DSK /Home-Building Combines/, trusts engaged in building up districts), etc.

Further research is needed on the problems of establishing norms of controllability, level of centralization with regard to administrative functions, determining the labor consumption of each function and the numerative norms of administrative apparatus, etc. In forming the administrative structure along the vertical axis we must proceed, in our opinion, from the necessity of a higher level of administration for a lower level, i. e., the limits of the units should be determined by the limits of administrative needs on the part of the higher level. On the other hand, the unit structure depends on the norm of controllability in each unit because when the number of subdivisions which are subordinate to an administrative body exceeds that which can be managed efficiently, it leads to a lowering of controllability or to uncontrollability. As was shown by the questionnaire investigation which was conducted by NIIES among supervisory personnel of construction organizations (SU chiefs and trust managers), the optimum norm of controllability for most of them, proceeding from practical operational experience, is considered to be as follows: for SU's 3--5 sections, for trusts 6--8 SU's, and for a Main Administration 9--11 trusts. On the whole, these norms of controllability correspond to the norms as defined by the theory of administration.

Thus, improving the administrative structure of housing construction presupposes the solution of a complex of interrelated problems. The basis for solving them must be an analysis of the production and organizational structure, as well as the structure of the administrative apparatus of construction organizations.

COPYRIGHT: Stroyizdat, 1979

2384
CSO: 1821

UDC 796.092

MINSK OFFICIAL COMMENTS ON PREPARATIONS FOR 1980 OLYMPIC GAMES

Moscow GORODSKOYE KHOZYAYSTVO MOSKVY in Russian No 1, Jan 80 pp 27-29

[Interview with Chairman of the Minsk Municipal Executive Committee S.M. Lukashevich: "Minsk -- For a Sports Holiday"]

> [Text] The soccer matches of a sub-group of the olympic tournament will be held in Minsk. In response to a request by a correspondent of this journal, the chairman of the Minsk gorispolkom [municipal executive committee] S.M. Lukashevich comments upon the manner in which the city is preparing to greet those participating in the competitions and also guests.

It is by no means an accident that our city has been asked to entertain both participants and guests of the 1980 Olympic Games. During the past few years, a number of large-scale international and all-union competitions have been held in Minsk. The world championships in biathlon, wrestling and volleyball and the European title in sports gymnastics, which took place in the capital of Belorussia, were given very high evaluations by officials, judges, sportsmen and trainers. Our city has the required sports base at its disposal. Those wishing to take part in physical culture and sport have at their disposal 20 stadiums, 22 swimming pools, 317 gymnasiums, 148 firing ranges and more than 1,300 athletic fields. For the purpose of the soccer tournament of the 1980 Olympic Games, there is no need for additional athletic installations being erected by us.

The preparations for the 1980 Olympic Games are being carried out in conformity with the overall plan for economic and social development of the city during the 1976-1980 period. This plan was approved long before the selection of the capital for the 1980 Olympic Games.

The 22d Olympic Games will commence in Moscow on 19 July 1980 and on the following day the olympic fire will blaze up in a bowl in the Dinamo Stadium in Minsk, at which time the soccer matches of a sub-group of the olympic soccer tournament will commence. However, prior to this time we must complete a broad program of work aimed at improving all branches of the municipal economy, transport operations and the sphere of services and restoring a number of athletic installations.

Work is presently being completed on the modernization of the main sports arena in Belorussia. A new western spectator stand capable of seating 10,000 spectators has already been erected here and new illumination towers with powerful searchlights have also been installed. Under the new spectator stand there are boxes for the press and honored guests, a communications terminal, press center, a control panel for the judging and information equipment and facilities for various technical services.

Participants in the olympic games will be able to train at the Traktor Stadium. They will have at their disposal the Stayki Sports Camp, which is located in the suburbs of Minsk. It is here that the teams participating in the tournament will live. Eight training fields and a medical-recovery center will be available for their use. In addition, in one of the city's districts and again in conformity with the plan for developing the city of Minsk, a large sports complex is being erected. By July 1980, 20 more soccer fields will have been placed in operation here.

Figure 1. The comfortable Turist Hotel is prepared to accommodate guests of the soccer tournament of the 1980 Olympic Games.

I have mentioned only those sports installations which are considered to be olympic in nature. However, other arenas in the capital of Belorussia are prepared to accept the participants in the tournament should the need arise.

In addition to those participating in the soccer tournament, judges and officials, Minsk must also provide addommodations for more than 11,000 Soviet and foreign tourists. Our city has always been noted for its hospitality. I am confident that each individual who arrives for a competition will be the object of attention and concern. The guests will be accommodated in such modern hotels as the Minsk, Yubileynaya, Belarus', Sputnik, Turist and Yunost'. The largest hotel in Minsk, the Planeta, will enter operations prior to the opening of the 1980 Olympic Games. An equal degree of comfort will be enjoyed by the tourists and also in the modern student dormitory facilities. Motels and camping grounds await the motor vehicle tourists. In the areas where guests will be accommodated there are facilities for domestic, trade and medical services, dispatcher points and a number of other services.

We are attaching priority importance to the organization of food services for our guests. I am confident that the traditional dishes of the Belorussian national cuisine and the cuisines of other peoples of the USSR will suit their tastes. The tourists will be served by 24 public catering enterprises, located mainly in the vicinity of the buildings in which the guests will reside. The rayon dining hall trusts conducted professional expertise competitions for the purpose of selecting the best cooks, waiters and head waiters, for servicing the needs of the participants and guests of the 1980 Olympic Games. Many of them are undertaking 250-hour training courses in the study of foreign languages. Beyond any doubt, this will aid in raising the culture and quality of the services rendered. Meanwhile, sample uniforms have been prepared by pattern makers for those public catering workers who will provide services for the guests.

The trade enterprises are also making preparations for the international sports forum. The sale of goods bearing the olympic symbol, produced by many Belorussian enterprises, has been taking place in Minsk for some time now. A crowd is always present in the Olympic Souvenir specialty store. Here each customer can find an item to suit his or her taste. The plans call for the opening of kiosks for the selling of souvenirs, in areas where the tourists will reside, during the 1980 Olympic Games. The guests will be able to procure traditional Belorussian scarfs, lace and belts. The olympic symbol invariably is found in the design of each such souvenir. I am confident that the guests will be pleased by the highly artistic products being produced by the Neman Glass Plant and the Minsk Porcelain Factory. They have already prepared souvenirs for world championships, European titles and various international competitions. The products of these enterprises, made out of crystal, colored glass and porcelain, are in great demand by the customers. The best trade workers have been selected for providing services for the guests of the Olympic Games. Of their number, 25 groups have been formed for studying the English, German and French languages.

The consumer services enterprises are also focusing attention on the Olympic Games. They are making preparations so as to be able to provide

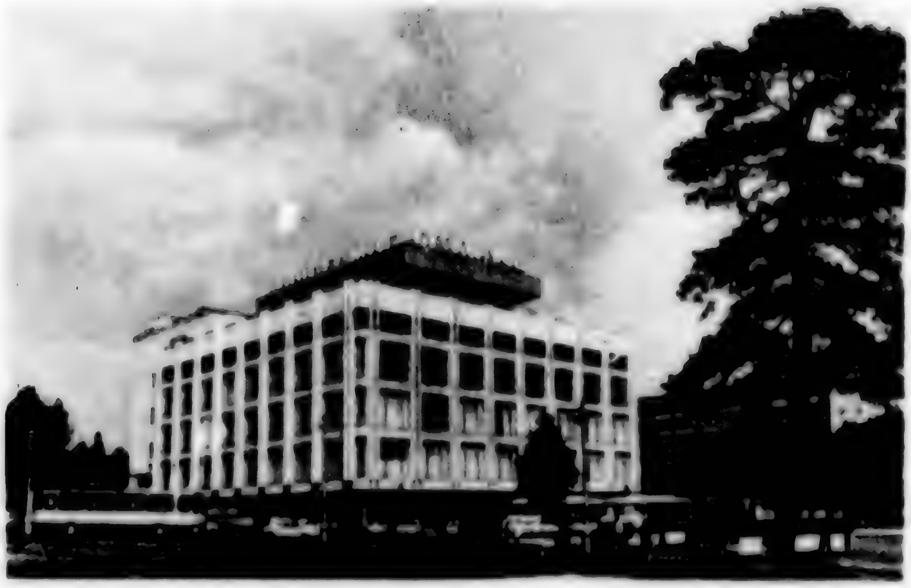


Figure 2. The new Belarus' Department Store offers all types of goods and traditional Belorussian souvenirs for guests of the city.

high quality services for the guests. Service enterprises will be opened in all of the hotels and dormitory facilities occupied by guests. Preparations are being made for servicing the needs of guests in 27 studios, shops and barber shops located on the central streets of the city and in the vicinity of the stadium. Consumer services enterprises will also be opened in the Stayki and Raubichi sports complexes.

Receiving points located in areas where the tourists will reside will ensure the acceptance and issuing of orders for the washing of linen, cleaning of clothing, repair of photography equipment, umbrellas, bags and other items, processing of film and photographic work. More than 4,000 of the best workers from various professions will work in the sphere of consumer services in behalf of the 1980 Olympic Games.

Among a broad range of problems which must be solved during the course of preparing for the soccer tournament, one of the most important is that of transport services. The fact that the airport, the railroad terminal, the living areas, cultural program installations and athletic and training facilities are all scattered requires very efficient operation of all types of transport. In addition to the existing passenger transport routes, 400 autobuses will be provided for servicing the guests.

In the interest of ensuring efficient passenger transport operations, the plans call for dispatcher points to be established at the airport, at the Dinamo Stadium and in the areas in which the tournament participants and tourists reside. These points are being equipped with operational communications with the central dispatcher service. In addition, 25 mobile dispatcher points having radio communications equipment will be organized directly on the line for operational control. The technical servicing and repair of motor vehicles will be carried out at a base of the Avtotekhobsluzhivaniye Administration and autobuses -- at the new 5th Autobus Park. Fifteen parking areas are being created for motor vehicle tourists in the vicinity of the areas in which the guests will reside.

During the period of the games, the movement of transit vehicles into the city will be restricted. The olympic transport routes will be laid out in the direction of Brest, Moscow and Mogilev and also along a number of main avenues in the center of the city. They will serve to connect the competition areas with the areas in which the officials, participants and guests of the 1980 Olympic Games will be residing and also with cultural-domestic, trade and medical services installations. All of these routes will be prepared in the proper manner. During the course of preparing for the 1980 Olympic Games, capital repairs will be carried out on 503,000 square meters of municipal roads, 147 kilometers of an illumination network, five bridges and overbridges. A great amount of work is being performed at the present time in connection with introducing more civic improvements in the region.

In keeping with the olympic tradition, the residents of Minsk are preparing a great cultural program. They have a great deal to show the guests of the olympic soccer tournament. During the period in which the games are in progress, 50 palaces and houses of culture, two permanent exhibits and six museums will hospitably open their doors for the guests. Theatrical figures in Minsk are also striving to demonstrate fine examples of their creativity. Leading artists and talented young people will give performances at the Great Academic Theatre of Opera and Ballet, at the drama theatres imeni Yanka Kupala and Maksim Gor'kiy and at the Musical Comedy Theatre.

The performances by some celebrated collectives will undoubtedly be of great interest -- the philharmonic, state and symphonic orchestras of the Belorussian SSR, the A Capella Choir imeni Shirma, the Orchestra of Native Instruments imeni Zhinovich, the Khoroshka Folklore-Choreographic Ensemble and the Pesnyary and Verasy popular vocal-instrumental ensembles.

The days and weeks remaining until the commencement of the 1980 Olympic Games are inexorably passing. And although a great amount of important work still remains to be accomplished, I am confident that we will complete it in a successful manner.

COPYRIGHT: Izdaniye Ispolkoma Mossoveta, 1979

7026
CSO: 1821

CONSTRUCTION

ARCHITECTURAL SUPERVISION LACKING IN OLYMPICS PREPARATIONS

Moscow STROITEL'STVO I ARKHITEKTURA MOSKVY in Russian No 10, Oct 79 p 7

[Article by V. Nesterov]

[Text] Eight months remain before the Olympic Games. Moscow is preparing intensely for this outstanding event of international significance.

The journal has already reported on the plenary session of the Moscow Municipal Committee of the Party devoted to preparations for the Olympics. In the report by Secretary of the Moscow City Committee of the CPSU I. N. Ponomarev and in other reports there were detailed discussions of what had been done and what must be done. The discussion was not only of construction, but also a broad group of problems.

First Secretary of the Moscow City Committee of the CPSU V. V. Grishin spoke after the plenary session. In order to deal successfully with this project, he emphasized, it is necessary to consider it a primary, central problem. The duty of the residents of Moscow is to take all of the planned measures in a timely manner and with high quality of workmanship.

Many dozens of objects are being built and rebuilt for the 1980 Olympics. All of them as a whole are a component part of the execution of the master plan. After the Olympics the people of Moscow will have at their disposal a number of enormous sports structures, including the largest covered stadium in Europe and in the country for 45,000 seats in the vicinity of Prospekt Mira at which it will be possible to hold competition at any time of year.

More than 14,000 people in Moscow will have new places to live in an improved, completely built-up area with all types of domestic services, the microdistrict of the former Olympic Village which already today can be justifiably called a model village.

With introduction of the Olympic automatic telephone office into operation, the city telephone network will be enlarged by 175,000 numbers.

The network of public eating facilities will be increased by 60,000 places. By the beginning of the Olympic Games more than 600 service enterprises will be repaired.

Comfortable hotels equipped with the most modern equipment with a total capacity of 25,000 beds are being put into operation; among them the largest hotel complex in Europe with 10,000 beds in Izmaylov and the first class Kosmos Hotel.

The list of Olympic construction sites can be continued; however, the capital construction and reconstruction is only one division of preparations for the games. The work of putting Moscow into model shape is far-reaching and multilevel -- we are talking about providing the approaches to the city, the basic Olympic routes inside the city, the repair of buildings on the main roads and streets, restoration of architectural monuments, and so on with public amenities, improvements and beautification. This program is no less broad than the capital construction program. The architects of the capital do not have the least important role in this work.

A large detail of Moscow architects is participating directly and actively in the design of the Olympic structures. However, we cannot be satisfied with what is achieved. It is necessary to expand the operations front, primarily within the framework of the activity of the Moscow Organization of the Architects Union.

It is impossible to overlook the multisided labor of the organizations of GlavAPU Administration in designing the largest Olympic structures: the collectives of MNIIPOKOZ Institute, Mosproyekt-1, Mosproyekt-2, OPZhR, and so on are designing the principal Olympic structures ("Luzhniki," the press center, the stadium on Prospekt Mira, the bicycle paths, Dinamo firing range). A number of the structures have been built according to the designs of the TsNIIEP zrelishchnykh zdaniy Spectator Buildings Institute, the Soyuz sportproyekt Sports Complex Design Union, the TsNIIEP lechebno-kurornykh zdaniy Health Resort Buildings Institute, the TsNIIEP torgovli i turistskikh kompleksov Trade and Tourist Complex Institute, the Aeroproyekt (the sports complex on Leningrad Prospekt, along Lavochkin Street, in Izmaylov, the airports in Vnukovo and Sheremet'yevo, the motels and youth camps in the forest and park zones).

In its time, the Architects Union held public discussions of all of these plans; now the heated, final phase has come at the construction sites. It is time to check out what has been done!

A great deal of work has been done in the design workshops, but the tension is not off today. At the plenary session of the Moscow City Committee of the CPSU serious criticism was addressed to the architects. Some of the institutes have still not completed their design work at the present time. Errors requiring emergency corrections were permitted in a number of them.

There were also mistakes on a purely creative level, including excessive use of short materials -- metal and natural stone. Deficiencies are being felt in the work of the architectural inspectorate.

Under these conditions our organization must find ways of helping and having a useful influence on the overall course of the construction.

How is it possible to help.

Let me present an example. In the Luzhniki, in the territory of the Central Stadium imeni V. I. Lenin, a large amount of finishing work must be done in a short period of time. Nevertheless, some of the plans have still not been given to the construction workers; others must be accepted along the way. Frequently this pertains to what would appear to be small things: what color to paint the interior, where to put a kiosk, and so on. The office of the designs do the inspections. However, they are not always successful. Probably it would be possible at the MNIIPOKOZ Institute to use the capabilities of the primary sections of the union to establish a type of supervision over the projects where a shortage of professional architectural supervision is felt. If this is not done, in many cases there will be many errors permitted in the final phase. Even if they are of a local nature, they can unexpectedly lower the quality of the construction.

Let us say a few words about putting the city in model condition. On the eve of the Olympics this problem is being solved especially intensely. The complex measures are of a mass nature. The district organizations, enterprises and student groups are participating actively. General city inspections are performed regularly. New capacity is being created with respect to repair of buildings, improvements and beautification; the capital investments in restoring historical and cultural monuments have been increased sharply.

Moscow is becoming more and more attractive not only in the center, but also in the outlying regions. In particular, broad-scale projects are underway in Kuskov and Kolomenskiy. Nevertheless, it is still impossible to consider the appearance of our streets, the improvements of the throughways and parks completely satisfactory. According to the administrative and selection data, there are many buildings along the Olympic routes that require repairs to one degree or another. One of the weak points is a shortage of professional architectural supervision and consultation.

In accordance with the plan this complex work is being undertaken by the district organizations, enterprises and main administrations of the Mosgorispolkom Committee. For each specific case -- whether it has to do with sidewalks, planting the yards and minor structural improvements -- it is necessary to have a design plan. As a rule, there are no limits on such forms of design. They cannot always be included in the program in advance. In the district workshops, in the district architecture divisions of GlavAPU, there is not enough manpower. In the majority of rayons there are design institutes, there are architects at work, and among them there are members of our organization. Their direct job is to help the city as the enterprises are doing.

The union has performed analogously and quite successfully in past years -- at the Lenin celebration, the celebration of the 60th anniversary of the Great October Revolution, and so on. Almost all the primary sections of the union of Moscow Design Institutes helped the rayons in preparing the design for improvements and beautification, consultation and supervision. Now it is again necessary to organize the supervisory work and involve all of the design institutes of the capital in it. For this purpose the headquarters for the coordination of the efforts of the supervising institutes and workshops has been set up at the MOSA. The start has been made, but the main event is still ahead.

Accordingly, it is necessary to note the interesting start of the Bauman Rayon. Here by the suggestion of the Rayispolkom and by order of the Glavtorg, the design organizations have prepared plans for remodeling the signs and interiors of the stores. The contract organizations have been decided, and we expect the renewal of many of the streets in this area by the time of the Olympics. This is an initiative which deserves to become widespread.

The unresolved problem is the following: the design institutes are placed nonuniformly with respect to the rayons. The situation can be corrected by transforming part of the force from the largest organizations to the supervisory work in adjacent rayons.

It will be useful to organize systematic conferences under the headquarters on problems of Olympic planning, to work out a methodology for mutual communications between the institutes on the rayon workshops and the divisions of rayon architects. The GlavAPU and the administration for improvements and beautification need urgently to prepare for the publication of various materials which can help to bring order into the improvement and beautification projects frequently carried out by people without elementary knowledge and skills.

On the eve of the Olympics a broad program has been planned for artistic beautification of the city. Unfortunately, in a number of cases the realization of this program has been impossible. One of the causes is the absence of creative contacts between the architect and artist in the initial stages of planning and design. This contact must be arranged for if it is possible. The first steps in this direction have already been taken. In particular, it is necessary to note the work of Mosproyekt-2. Sketches of arrangements for celebrations are being prepared simultaneously which will be realized by the rayon organizations. However, all of them understand that it is one thing to design and sketch and another to execute.

In essence, a small group of people are now occupied with celebration arrangements for the rayons — these are the rayon artists, rayon architects, and one or two architects from the workshops. Undoubtedly these will be insufficient when the time comes for full scale execution. Indeed, many thousands of information stands and installations must be made taking into account various conditions of an esthetic nature, the existing situation, and so on. Of course, it is difficult for the rayon organizations to get along without professional advice and without the recommendations of an architect. A serious role will be played by a supervisory assistants system which can and must be organized by our union.

Now in the concluding stage of preparation for the Olympic Games, it is necessary to focus the attention of the entire Moscow architectural community on this event and to involve as large a number of architects as possible, using all forms of activity of the union.

COPYRIGHT: Izdaniye Mosgorispolkoma, 1979

10845
CSO: 1821

CONSTRUCTION

CHRONICLE OF OLYMPIC CONSTRUCTION PROJECTS

Moscow ZHILISHCHNOYE STROITEL'STVO in Russian No 12, Dec 79 p 24

/Article by V. G. Trofimov, public correspondent of the journal (Moscow): "Chronicle of Olympic Construction Projects"/

/Text/ The Olympic year of 1980 has arrived, and there are hardly six months remaining before the 22nd Summer Games. Most of the sports and service facilities have not only been built, but they have also, if we may so express ourselves, "gotten rolling." We have been telling our readers about the progress in modernizing the Central Stadium imeni V. I. Lenin in Luzhniki, about the new stadium in Izmaylovo, the gigantic Hotel "Kosmos," which has lent beauty to Peace Prospect near the USSR VDNKh (Exhibition of National Economic Achievements), and the all-purpose sports halls on Lavochkin Street and Sirenevyy Boulevard.

As far back as September, 1979 the Moscow Gorkom (City Party Committee) under the chairmanship of the First Secretary of the CPSU Moscow Gorkom, V. V. Grishin, held a session of the city commission on preparing for and conducting the 1980 Olympic Games in Moscow.

The commission noted that the city's construction organizations had fulfilled by 112 percent the plan for eight months of construction and installation operations on building the Olympic facilities. All the main administrations on construction under the jurisdiction of Mosgorispolkom had successfully completed their assignments.

Glavmospromstroy has completed the modernization of the sports facilities of the Central Stadium imeni V. I. Lenin, including the Large and Small Sports Arenas, the swimming pool, and the Sports Palace. The "Druzhba" enclosed hall for sports games has been erected on the stadium's territory.

The start-up complex of the building of the 50th Anniversary of the October Revolution Television Technical Center has been put into operation.

Glavmosstroy has constructed new projects on the Grebnoy Canal as well as sports fields for archery in Krylatskoye.

Nor did the construction organizations and a number of ministries and departments lag behind. They completed the buildings for the track-and-field and soccer facilities on Leningrad Prospect, the circular track for the bicycle road races in Krylatskoye, the "Dinamo" shooting range and that in Mytishchy. The building of the "Olimpiada" ASU (Automated Control System) has been put into operation.

Very large volumes of work on installing engineering communications and utilities from the adjoining areas to the facilities put into operation have been carried out by the organizations of Glavmosinzhstroy.

Intensive work is being done by builders, installers, and finishers in the Olympic Village and at Europe's largest hotel complex in Izmaylovo, on the enclosed complex at Krylatskoye and the equestrian sports complex alongside the Bitsevsk Forest Park, at the enclosed stadium and swimming pool on Peace Prospect and at the new Sheremet'evo-2 Airport.

Let's visit some of them today.

Olympic Village

Equally beautiful in summer and winter are the 18 white, blue, and red monumental, yet lightweight, buildings of the Olympic Village. Apartment houses 16 stories high are grouped around 6 building complexes, and they form 3 unique squares, within which spacious courtyards have been provided for. Employed here are plasterers and painters, plumbers and floor installers, electricians and specialists in installing elevators.

The Village has several thousand apartments. All the rooms are spacious, convenient, and light; each is furnished as a bedroom for two athletes. The cozy kitchen has a dinner table and four chairs. Harmonious colors have been chosen for the walls and the upholstery of the furniture. In short, everything here has been designed to enable the athletes to get a good rest. By now several thousand apartments are all ready and "turnkey."

Brigades of the 190th Administration of the "Mosliftmontazh" Trust pledged to complete the elevator installation for the building complexes of the Olympic Village by Constitution Day--7 October, and they were true to their word.

This work was complicated by the fact that what were being installed here were not standard, but rather modernized, elevators with an increased load-hoisting capacity. Additional equipment had to be placed in the elevator shafts and the machine sections. Success in this matter was achieved by brigade specialization: some carried out the installation, while others performed the adjustments. And in the progressive brigades of A. Suvorkin and V. Pervoykin all the workers, except for the lowest-level ones, had mastered several closely-related jobs.

The gateway to the Olympic Village. It is covered by a large curtain, measuring 36×36 meters. The latter rests upon columns and mounted structures. Everyone who enters the area of the Olympic Village passes through here and then comes upon the Plaza of the Nations. It is here that the flags of all the countries participating in the 1980 Olympiade will be raised during the Games.

From a formal vestibule the athletes can proceed into the hall to be used for press conferences and allotments, into a lobby with halls and a bar, into a hall for currency transactions, to the post-office, telegraph and inter-city telephone facilities. The erection of this building was carried out by one of the best brigades of the "Mosstroy-3" Trust, that of V. Nikulin. From the Plaza of the Nations roads start out to the apartment houses, cultural center and sports complex, restaurant, department store, and other service areas. A number of buildings and facilities have already been put into operation, including several kindergartens, nurseries, and schools. To be sure, it may seem strange at first glance that children's institutions would be needed in the Olympic Village. But, of course, we must bear in mind the fact that after the 1980 Olympiade thousands of Muscovites will settle in the Olympic Village. And during the Summer Games various services for the Village will be situated in these buildings.

Work is nearing completion on the sports complex as well as on the Cultural Center. The following have been constructed here: a motion-picture and concert hall with accommodations for 1200 persons, two motion-picture theaters for 250 spectators, a dance-hall and game room, an area for playing table tennis, exhibit areas, a billiards room, television lounges, record, tape, and book libraries, a restaurant, and snack-bars. The cultural program for the participants will be very extensive. It will include shows, concerts, film showings, trips around Moscow and the Moscow suburbs, visits to museums and exhibitions, as well as a great deal more.

The area of the Village and the approaches to it have been very well landscaped with greenery.

On the section of Michurinsk Prospect leading to the Olympic Village specialists of SU-22 of the "Moszelenstroy" Trust planted about 400 linden trees and 3,000 decorative shrubs.

And on the territory of the Village itself the participants in the final competitions of the 7th Summer Spartakiad of the Peoples of the USSR--athletes from the Union republics, as well as Moscow and Leningrad--founded Friendship Park, where they planted chestnut, birch, willow, and linden trees; they also laid out lawns and flower beds.

Shooting Range in Mytishchi

It was tested during the 7th Summer Spartakiad of the Peoples of the USSR by visitors from 17 countries with regard to skeet shooting and 34 with regard to target shooting.

The marksmen of the "Dinamo" group of the capital have now taken over three shooting galleries, also including areas for skeet shooting. First-class apparatus has been installed here, utilizing automatic units and electronics; these not only aid the marksmen but also allow the spectators to follow all the stages of the competitions. Alongside the shooting galleries are convenient stands and a three-story building which houses a hotel, press center, a well-equipped cafeteria, and a conference hall with 240 seats. In its technical perfection the shooting complex of Moscow's "Dinamo" group surpasses all its Olympic predecessors; thus stated the president of the International Federation of Shooting as a Sport, Georg Vichos from Greece, who was visiting Moscow.

COPYRIGHT: Stroyizdat, 1979

2384
CSO: 1821

UDC 796.092.1

PREPARATION OF MOSCOW HOTELS FOR 1980 OLYMPIC GAMES

Moscow GORODSKOYE KHOZYAYSTVO MOSKVY in Russian No 1, Jan 80 pp 21-23

[Article by C.I. Chibisov, chief of the Administration of Tall Buildings and Hotels: "Stages of Hospitality"]

[Text] In all, only a few months remain before that memorable day when marathon runners will carry the torch into the capital and hundreds of guests -- athletes, judges, journalists and tourists -- will become temporary residents of our city. The primary requirement of workers attached to the hotel management service is that of greeting these individuals in a cheerful manner and providing them with exemplary services. The development of and further improvements in the material and technical base of the hotel management service constitute the basis for the program of measures aimed at preparing for the international sports forum, as planned under the direction of the Moscow Municipal Party Committee and the Mossovet [Moscow City Soviet of Workers' Deputies]. A considerable portion of the work is being carried out by the collective of the Administration of Tall Buildings and Hotels. As early as 1976, a headquarters was created for directing the preparations for receiving and providing services for the participants and guests of the 1980 Olympic Games.

In conformity with the overall plan, an increase has taken place in the number of available apartments. The Baykal and Volga hotels and housing facilities on Zvezdnyy Boulevard and Altuf'yevskiy Highway have entered operations. Special attention has been given to the capital repair and modernization of existing hotels and to raising the level of their services and amenities in keeping with the modern requirements. The second phase of the Moskva Hotel has been placed in operation. The facilities of a number of buildings of the Kiyevskaya, Yaroslavskaya, Vostok and Turist hotels have been modernized and completely replanned. Repair work has been carried out in many hotels in areas of general use and on the sanitary-engineering equipment.

Improvements have been carried out on the facades of such hotels as Moskva, Sovetskaya, Ural, Tsentral'naya and others. Since the beginning of preparations for the 1980 Olympic Games, repairs have been carried out on more than 7,000 apartments, 250 halls and vestibules and on more than 500 corridors and staircases. The installation of fire alarm systems was carried out in 23 hotels, 16 buildings were equipped with warning systems and so forth. During repair operations, walls were finished off using non-flammable materials, anti-smoke partitions and doors were installed and also light indicators, basements were separated off from living quarters and so forth.

Figure 1. A first-class apartment at the Moskva Hotel

A great amount of work has been carried out aimed at developing the capabilities of the repair and construction administration. At the beginning of last year, one more RSU [repair and construction administration] and a specialized sector for current repair work having an annual work program of 1.6 million rubles were created. Organizational and technical measures were carried out mainly for the purpose of introducing new equipment, raising the level of services for guests and the culture of production, easing working conditions and ensuring reliable and uninterrupted operation of the equipment. The Baykal Hotel was equipped with telephones. Here and also at the Yaroslavskaya and other hotels located in the region of the VDNKh [Exhibition of Achievements of the National Economy of the USSR], elevator groups were converted over to dispatcher services.

Figure 2. A comfortable double-occupancy apartment at the Zarya Hotel

A considerable volume of work has been carried out in connection with the repairing of asphalt and brick surfaces and improving services and amenities and also landscaping on the areas adjoining the hotels. Decorative parks and recreation areas have been created in the interior courtyards of the hotels.

In preparing the hotels for the 1980 Olympic Games, the administration's workers were guided by one condition: the hotels must satisfy the modern requirements for living comfort and they must provide those conveniences which an individual is accustomed to enjoying in his own apartment. Thus special attention was focused, for example, to equipping the hotels with soft and comfortable furniture. The furniture and light equipment in hotels scheduled for use by guests of the 1980 Olympic Games have been replaced almost completely and considerable replacements have also been carried out in all of the remaining hotels. Last year, new models of furniture were developed at the administration's furniture factory. They were installed for experimental purposes at the Yaroslavskaya Hotel. These models are presently in series production.

Figure 3. Preparations for receiving guests are being made in a dining room of the restaurant at the Ukraina Hotel.

The All-Union House of Models developed new formal attire for the service personnel. It is manufactured by the Moscow enterprises Zhenskaya Moda and Bol'shevichka and also by the Ryazan' Sewing Association. In addition to their clothing, the workers will be distinguished by a chest insignia. All of the hotels will have their own towels, with factory-woven markings. The centralized washing and chemical cleaning of linen has been organized.

A great deal has been accomplished with regard to improving the accounting for the available apartments and also raising the culture of services. A uniform system has been created at a number of hotels for receiving and providing services for guests. Experience has shown that the work of such services at the Kiyevskaya, Yaroslavskaya and Moskva hotels has brought about a reduction in the number of workers engaged in accommodating citizens, it has raised the effectiveness of use of available apartments and the culture of services and it has accelerated the handling of residence documents.

Printed advertising has been renewed -- booklets, pamphlets and information on domestic services, stickers on suitcases, post cards and so forth. A system of visiting cards for guests and passes for workers has been introduced. Specific areas have been set aside for the various services, for example, for currency exchange and Inturist [All-Union Joint-Stock Company for Foreign Tourism in the USSR] stations.

Reserves have been set aside for providing additional services. Depending upon the peculiarities of each hotel, the number of such services fluctuates from 40 to 50. The hotels are equipped with television sets (including color and portable units), refrigerators, electric samovars, siphons with aerated water and many other items of equipment.

Recently, priority attention has been given to those questions concerned with improving personnel training and the skills possessed by the workers. During a period of one and a half years, approximately 800 specialists have undergone training for work in the hotel management service and roughly 8,000 individuals must improve their skills by means of courses. During the period of the games, the administration's hotels will employ on a temporary basis more than 2,000 students of MISI imeni Kuybyshev [Moscow Construction Engineering Institute imeni V.V. Kuybyshev] and more than 400 translators. They are all presently receiving training in these professional skills.

Obviously, these course programs were developed taking into account the olympic themes. A special 26-hour program has been developed for those who will study these subjects in the various areas. In addition, foreign language courses have been created and are presently in operation; the work is being carried out on the basis of 3-month, 1-year and 2-year programs. Moreover, 58 groups (700 individuals) have also been organized for the study of questions and answers in three languages.

A competitive inspection for the best preparation for the 1980 Olympic Games is actively being carried out, with the conditions being directly associated with the extensively deployed competition for the awarding of the title "Collective of High Production Culture." It has been awarded to the collectives of the hotels Baykal, Minsk, Moskva, Rossiya, Sovetskaya, Turist, Ukraina, Ural and Tsentral'naya. More than 350 subunits of the hotel management service are competing for the right to be referred to as "exemplary." This title has been earned by 46 brigades, sectors and services.

The movement to achieve a communist attitude towards labor is expanding. Twenty seven enterprises, 717 brigades and 158 departments are participating in it. The title of Collective of Communist Labor has been awarded to 384 brigades and 60 departments. The names of 240 leading production workers are recorded on the Board of Honor. Included among them are chambermaids T.M. Savina (Baykal), A.P. Rumyantseva and A.V. Burova (Rossiya), L.I. Kurnosova (Sovetskaya), V.I. Bukreyeva and Z.A. Chernysheva (Vostok), Ye.I. Khitrenkova (Zarya), V.P. Pshenisnova (Moskva) and P.A. Fateyeva (Yaroslavskaya). A number of individuals were also declared to be the best in their professions: furniture factory upholsterer T.V. Belova, senior-foreman for an elevator service V.I. Shmidt (Moskva), laundry calenderer T.V. Kiseleva and others.

New forms are appearing for the socialist competition as it undergoes further expansion. For example, Brigade Leader A.A. Bogdanov of RSU-1 [Repair and Construction Administration No. 1] initiated the ahead-of-schedule completion of planned annual tasks in behalf of the 1980 Olympic Games, with the work being carried out in a high quality manner. His initiative was followed by 15 brigades. The best chambermaids at the Tsentral'naya Hotel -- V.A. Shchepilova, A.V. Shestakova, M.I. Solduvayeva, A.S. Ryabova and P.V. Bolgarinova -- vowed to clean their apartments only in an "outstanding" manner.

The brigade of T.V. Kastelyayeva (furniture factory), in conformity with its obligations and in behalf of the 62d anniversary of the Great October, fulfilled its task for 4 years of the five-year plan ahead of schedule. A chambermaid at the Rossiya Hotel, communist labor shock worker M.F. Popova, initiated a movement the slogan of which was "Exemplary services for each apartment."

The collective of the Moskva Hotel is conducting a public inspection for the purpose of raising the culture of services. A special committee has been created and a leaflet containing an appeal to guests to offer proposals and suggestions concerning the work of the service personnel has been printed. Almost all of the 1,300 leaflets were filled in. The proposals were examined during a meeting of the inspection committee. Many of them have been introduced into practice and this has promoted considerable improvements in the hotel operations. These examples reveal that the collective of the hotel management service will achieve new successes in the socialist competition for exemplary services for the participants and guests of the 1980 Olympic Games.

COPYRIGHT: Izdaniye Ispolkoma Mossoveta, 1979

7026
CSO: 1821

CONSTRUCTION

KOSMOS HOTEL TO BE UTILIZED DURING 1980 OLYMPICS

Moscow NA STROYKAKH ROSSII in Russian No 10, Oct 79 pp 42-45

[Article by Deputy Chief of Mosproyekt-1 V. Steyskal]

[Text] A hotel was built for Glavinturist in Moscow on Prospekt Mira opposite the Exposition of Achievements of the National Economy of the USSR. During the 1980 Olympic Games it will be made available for television and radio correspondents servicing the 1980 Olympics.

The hotel has 27 floors (including 22 residential floors, 3 with public facilities and 2 engineering floors -- the top floor and the intermediate floor between the residential and public facilities; in addition, there is a basement), and it is designed for 3554 beds (1777 rooms), international first class — 4-star.

The building is semicircular with the concave side facing Prospekt Mira and it rests on a three-story stylovation which houses the public facilities.

The residential floors have corridor planning: the rooms, service facilities and vertical communications are located on both sides of a common corridor.

Furnace rooms, rooms for cleaning clothes and footwear, maids' rooms, storage for clean and dirty linens, garbage and laundry chutes are provided as part of the service facilities. There are two such groups on each floor.

The units are basically single-room units (97% of them) with 16.09 m2 of living area, and usable area of from 22.89 to 24.16 m^2; their width on the inside of the building is 3.4 meters (along the center lines), and the width with respect to the outside of the building is 4.34 meters (along the center line), which makes it possible to put furniture on two sides of the room with a built-in closet in the entry opposite the bathroom. The same living area is achieved in the units by varying their depth (4.75 meters and 4 meters).

The furnishings of the single-room unit include two beds, two night stands, two armchairs and a coffee table, a desk chair, a combination desk and vanity, blocked with a suitcase stand. The furniture is placed considering the functional zoning of the room with separation of the room into zones for sweeping, daytime resting and work. The combination bath (3.85 m^2) has a bathtub, toilet bowl, lavatory with enlarged counter, mirror, towel holder and towel drier and a plug for electric shaver.

In addition to the single-room units there are luxury units: 53 two-room units and 6 four-room units making up about 3% of the total living space of the hotel. The two-room units have two bathrooms, and the four-room units have three analogous to the single-room units. The two and four-room units are in practice made up of two and three adjacent units which allows for using them together or separately.

The artificial illumination of the units is provided by area lighting; there are no ceiling lights.

The hotel has a developed complex of public facilities which are located in the stylobation.

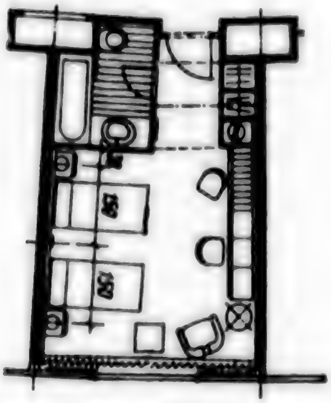
The main entrance to the building is from the third floor level. The lobby includes a main hall part of which has two rows of windows, a registration and reception desk, an Inturist office, a currency exchange desk, post office, telephone, telex, Berezka store, kiosks for selling magazines, tobacco products, and so on, men's and women's hairdressers. For tourist groups arriving by bus there is a special lobby on the second floor connected to the main lobby by two stairways and an escalator.

The public eating facilities with a capacity of 4200 seats are primarily on the third and fourth floors. These include four restaurants, a banquet room and bars; a night club; a summer bar on the roof of the three-story stylobation; and a staff dining room.

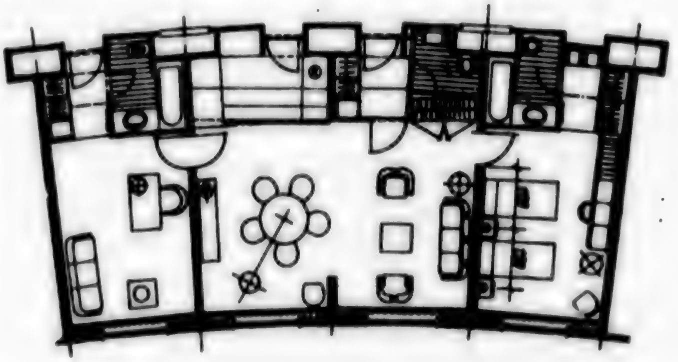
The second story of the stylobation has a five-lane bowling alley, a personal services center (cleaners, clothing and footwear repair shop), a facility for delivery and sorting of baggage, a laundry for 0.7 tons of linens an hour, administration rooms, workshops and technical services, kitchen, procurement and subsidiary facilities for the food service. In the basement under the main building there is a 120-130 car garage, engineering services, storage and refrigeration for the food services, and a covered platform.

The residential floors are connected to the lobby and the public facilities of the hotel by two banks of passenger elevators (8 each). Their operation is zoned: in each bank four elevators operate from the 2d to the 17th floor and four from the 17th to the 25th floor. In addition, there are two banks of freight-passenger and freight elevators (three each).

General view of the new, modern 27-story Kosmos Hotel; the facade of the building is facing Prospekt Mira.



Standard single-room unit with outer facade



Standard four-room luxury unit made up two or three adjacent units

In a separate block built on to the basic building and communicating with it by a crossover, there is a 1000-capacity conference hall with a special entrance, lobby and cloak room which allows it to be operated independently of the hotel. There are also seven meeting rooms. A swimming pool (21x15 m) is built under the conference hall, and a 16-person sauna in the basement under it.

The conference hall can be used not only for meetings, but also for concerts, showing ordinary, widescreen and wide-format films. Each seat in the hall is equipped with a table for taking notes and a panel for plugging earphones into the six-language simultaneous translation network.

The hotel is saturated with complex engineering systems which is indicated by the fact that the general construction cost was only 40% and the rest was engineering equipment and finishing work.

It is especially necessar to note the electronic systems group. The automatic telephone lines are provided with the Metakonta-L quasielectronic automatic telephone office with two ITT-1600 computers. The automatic telephone office provides the guest with a number of services in addition to the ordinary telephone services -- double ring, grouping of lines,call forwarding, transmission of an "alarm" signal, automatic delayed ringing, conference calls, and so on.

The PDP-11 electronic room condition monitoring system permits an overall picture of the condition of any room to be pulled up on the screen -- whether it is occupied or not, it is being cleaned or cleaning has been completed, the guest is in the room or not. The indicated system also offers the possibility of reserving rooms and a number of other manipulations.

The system for settling with the guest for any services rendered in the hotel is also based on broad application of special electronic cash registers and a large bookkeeping computer. All the information about the operation of the engineering systems comes to a central dispatch panel on the third floor.

During design and construction a great deal of attention was given to the development and performance of decorative work in the hotel. A broad spectrum of finishing material such as natural stone, wood, colored ceramics, mirror and tinted glass, colored aluminum, various synthetic fabrics, and rugs made it possisble to create interesting interiors.

All 22 residential floors are divided into four color zones -- beige, pink, green and blue — this means that in finishing the rooms the fabric wallpaper, synthetic rugs on the floors, the bedspreads, and the upholstery have the corresponding range.

Among the public facilities, the main lobby is distinguished by its strict and decorative resolution. The polished marble-like stone on the floor and wall panels is successfully combined with the dark wood of the reception area and it is complemented by the large quantity of green dropping from the mezzanine railing. The stainless steel sculpture resembling a cluster of cosmic rays hanging to the right of the entry is impressive.

The Lunnyy and Zimniy sad night club in the restaurant have been interestingly resolved both in color and material. However, the most successful is perhaps the interior of the congress hall in the general ocher-gold color range and with its impressive ceiling plastic.

Soviet artists participated in the interior design. Thus, for the banquet hall Moscow artist V. El'konin made sketches for two tapestries 3.6x7.5 m each to be made in France. The themes of the tapestries -- Moscow and Paris -- reflect the spirit of cooperation which reigned on the construction site. Artist N. Andronov and his coworkers did a painting for the eight-elevator halls of the first two floors and made decorative lattices of stainless steel for the summer cafe on the roof of the banquet hall.

The design of the Kosmos Hotel was the joint work of French and Soviet architects O. Kakubom, P. Juglo, S. Epstein (the SEFRI Company), V. Andreyev, T. Zaikin and V. Steyskal, engineers I. Samsonov, N. Ivanov, M. Ignat'yeva, N. Mikhaylova, D. Zilivinskiy, T. Lesova, B. Tevelev, V. Shaposhnikov, V. Shiyan, G. Khromov (Mosproyekt-1).

COPYRIGHT: Izdatel'stvo "Sovetskaya Rossiya", "Na stroykakh Rossii", 1979

10845
CSO: 1821

CONSTRUCTION

UDC 796.092.1[100]:69

FACILITIES FOR 1980 OLYMPIC GAMES IN MOSCOW

Moscow GORODSKOYE KHOZYAYSTVO MOSKVY in Russian No 1, Jan 80 pp 26-27

[Article by G.A. Naumik, deputy chief of the Press Center Section of the Olympic Press Service Administration of the Organizational Committee for the 1980 Olympic Games: "In the Opinion of Competent Specialists"]

[Text] Thus the last pre-olympic year has passed. Only a brief period of time remains before the sports forum takes place and thus it is apropos at this time to summarize some of the preparations being made for this event. The final competitions of the 7th Summer Games for the people of the USSR, beyond any doubt, served as a fine check in this regard. Reports and a great amount of material were published in the Soviet and foreign press analyzing the organization of this large scale national sports holiday. Quite understandably, the overwhelming majority of the articles underscored the readiness of the capital of the USSR to conduct the olympic competitions.

When we open up the olympic map of Moscow, our eyes are immediately drawn to the Central Stadium imeni V.I. Lenin in Luzhniki. It is quite properly referred to as a sport city. Here there are 140 different installations located on an area of 180 hectares, the spectator stands of which are capable of simultaneously accommodating 200,000 persons.

Upon arriving in Luzhniki, the representatives of many international federations were unanimous in their evaluations, as they stated: "The olympic competitions can take place here right now." It would appear that externally the Great Sports Arena had changed very little. Only the electric illumination towers appeared to be new. However, upon closer examination other changes became apparent: new spectator stands had been installed, the coverings of the soccer field and the running tracks had been replaced and a new synthetic material was laid on the sections to be used for running and throwing events.

The areas beneath the spectator stands were completely replanned. In those areas where new radio and information centers had been installed, an important olympic press center was established and rooms were equipped for use by officials and the representatives of international sports federations. Repairs were carried out on many gymnasiums and practically all of the public catering enterprises. The hotel was partially prepared. A medical and physical culture dispensary commenced operations in one of its areas.

It was difficult to recognize the small sports arena, which is now being referred to as the small Sports Palace. It has been changed almost completely from what it once was: no longer open, it has been changed into an enclosed multi-purpose complex. Under its roof there are spectator stands with 9,000 seats. Here there are many technical services and two limbering up gymnasiums. The floor of the arena is covered with a synthetic carpet. By way of calling the attention of the Soviet and foreign sports leaders to the readiness of the residents of Luzhniki, the president of the International Federation of Track and Field Athletics, Adrian Paulen, commented during his recent visit this summer: "Distinct from Montreal, the readiness of Luzhniki and its gymnasiums is such that olympic competitions can be conducted here at any time of year."

The Moscow builders, engineers, technicians and other specialists have modernized such well known sports centers as the Dinamo and Yunyye Pionery stadiums and many other facilities. But if we are discussing new installations built using the last word in construction equipment, on a modern architectural level and which are looked upon not just as modern architectural models, but rather as installations which were tested during the period of the 7th Summer Games for the people of the USSR, then we have in mind mainly the Druzhba multi-purpose gymnasium. Here it is possible to conduct extremely diverse competitions, since its arena can be transformed. During the period of the Summer Games, this installation was valued very highly by the senior trainer of the Cuban national womans' team, Jorge Zugeno: "A wonderful gymnasium, bright, spacious and with fine acoustics. Nor is this only my opinion. During the upcoming olympic games, the participants will be more than satisfied to compete here for the title of olympic "champion."

Foreign guests have praised highly the new olympic installations. Masadzi Kiokava, Vice President of the International Olympic Committee, commented during an interview: "Many athletic competitions have taken place at the same installations where, during the summer of 1980, sportsmen from all over the world will compete for olympic medals. We are completely satisfied with regard to the status of affairs relative to the olympic installations. I personally have been greatly impressed by the rowing canal at Krylatskiy. This complex, where the olympic rowing competitions are scheduled to take place, is unique in nature. No other country in the world has a similar facility."

Another equally noteworthy comment was expressed by the Vice President of the International Amateur Federation of Bicycle Sports, Louis Puig Estev:

"An outstanding route has been built at Krylatskiy -- here the expertise of an athlete is subjected to a very comprehensive check. A new bicycle track that is currently under construction is also quite impressive. It is my opinion that it will be the best enclosed stadium in the world, with a track length of 333.333 meters. Moreover, the other installations are also a delight to look at: a soccer and track and field complex of the TsSKA [Central Army Sports Club] and a rowing canal as well as the Olympics Village. Moscow is successfully preparing for the 22d Olympic Games and there can be no doubt but that they will be conducted on a high level.

The organizers of the 1980 Olympic Games have displayed a great amount of concern for the equestrian sport. The international class specialists, who bear a considerable amount of responsibility for the preparations for the olympic competitions and whose opinions are valued highly by the residents of Moscow, are delighted by the scope of the installations. Upon his arrival for the 7th Summer Games, the general secretary of the International Federation of Equestrian Sport, Fritz Vidmer from Switzerland, stated: "In Moscow, the capital of the 1980 Olympic Games, the fate of the arenas will not be forgotten upon the completion of the games. A competitive field which was valued very highly during the 7th Summer Games is being converted during the winter into a base camp for skiers. I visited the olympic equestrian sport center in Bittsa on two occasions -- in January 1978, when I visited Moscow for the very first time and last summer -- for the 7th Summer Games for the People of the USSR. I can state that a wonderful arena is being created for the competitions. Deserving of special mention is the planning being carried out in behalf of the olympic projects. I am convinced that sufficient time remains prior to the 1980 Olympic Games to allow the builders to solve all of their problems. I was also pleased to be able to visit the Olympic Village, where outstanding living and recreation conditions are being created for the athletes and delegation leaders."

The 7th Summer Games for the people of the USSR, held in Moscow, were attended by representatives of practically all of the international athletic federations and national olympic committees. A frequent visitor to the stadiums, gymnasiums and press box in Moscow was a relatively short but very energetic individual -- Enrico Krespi, president of the International Federation of the Sports Press. He was one of those representatives who reviewed and studied the preparations being made in Moscow for the 1980 Olympic Games. Here is his authoritative opinion:

"I am convinced that the games will be conducted on a high level from both a technical and athletic standpoint. The gymnasiums and stadiums in which the olympic athletes will compete are some of the best in the world. In the West, the statement has been made that it is impossible to organize olympic games on the same grand scale, for example, as they were organized in Munich. I can state quite frankly that preparations are being made for the Olympic Games in Moscow that compare very favorably with similar preparations made in the past.

"Allow me to focus attention on one detail. I would like to mention the conditions which were created for members of the press during the 7th Summer Games for the people of the USSR. Accreditation, press conferences, interviews with athletes -- all of these actions were handled in a high quality manner. The work carried out by our Soviet colleagues can serve as the basis for organizing the work of members of the press during the forthcoming 1980 Olympic Games. It bears mentioning that the new Olympic Press Center was not yet in operation during the 7th Summer Games for the people of the USSR and yet its sections at the Stadium imeni V.I. Lenin in Luzhniki and at the TsSKA riding arena provided very fine services for both the Soviet and foreign accredited correspondents."

Certainly, all of these wonderful installations which so pleased the athletes and guests of Moscow will not be shut down following the games. Lively voices will still resound here, as well as referee whistles and the striking of balls. Such was the case during the world championship for young rowing enthusiasts, which was conducted immediately following the 7th Summer Games in Krylatskiy, or at international volleyball tournaments held in the Druzhba Gymnasium in Luzhniki. This is their daily life, their working days.

This startling grandeur and the grandiose sports economy have been erected for many years. Nor is its purpose merely that of serving as a forge for international and olympic records or as an arena for the appearance of super-champions. Rather, it was created mainly for the people, for the residents of Moscow of all ages and for their health, recreation and happiness.

COPYRIGHT: Izdaniye Ispolkoma Mossoveta, 1979

7026
CSO: 1821

CONSTRUCTION

CONSTRUCTION IN THE MOSCOW SUBURBS FOR 1980 OLYMPICS

Moscow ZHILISHCHNOYE I KOMMUNAL'NOYE KHOZYAYSTVO in Russian No 9, Sep 79 p 13

[Article by S. Bulyga]

[Text] Less than a year remains before the beginning of the Olympic Games in Moscow.

Moscow Oblast is participating directly in preparations for the 1980 Olympic Games. A number of Olympic sites are being constructed in Moscow Oblast for various types of games.

The 9th meeting of the Oblast Council of People's Deputies considered the question of the execution of the plan for providing public amenities in the populated areas outside Moscow in 1976-1980 and special measures connected with the holding of the Olympic Games.

Deputy Chairman of the Ispolkom of Mosoblsovet [Moscow Oblast Council] A. S. Sviridov, presented a comprehensive report. He noted that the assignments for 3 years of the five-year planning period with respect to the building of streets, roads and sidewalks, planting green strips in the cities and villages have been completed. Parks and squares have been put in, and the residential and public buildings have been repaired and painted. Dilapidated structures have been razed.

The improvement of the architectural and planning structure has noticeably altered the centers of many cities, especially Dmitrov, Orekhovo-Zuyev, Podol'sk, Chekhov, Shchelkovo, and Ramenskiy. Much has been done to improve Dubna, Protvino, Elektrostal', and Pushchino.

The problems of shaping up the central farmsteads of a number of sovkhozes and kolkhozes such as, for example, the Zarya kommunizma gosplemzavod poultry farm and Povadinskiy sovkhoz of Domodedovskiy Rayon, the sovkhoz technical high school Yakhromskiy of Dmitrovskiy Rayon, and the sovkhozes imeni 50th Anniversary of the Great October Revolution of Naro-Fominskiy Rayon and Voronovo of Podol'sk Rayon, are being solved successfully.

Some 1459 km of hardtopped highways have been built. All of the central farmsteads and the majority of the divisions of the sovkhozes and kolkhozes are now serviced by these roads. Many of the highways, squares and streets in the populated areas have electric lighting.

Public amenities have been installed over 446,000 m^2 of waterfront and river banks. One thousand two hundred and fifty stalls and stands (kiosks) have been replaced. One hundred seventeen hay parking lots have been built for 15,000 personal automobiles. One thousand seven hundred twenty-five bus stops pavilions have been constructed by individual designs. More than 100,000 buildings have been repaired and their facades painted. Two sixty-nine thousand balconies have been built and about 20,000 small architectural configurations have been installed. Two hundred twenty-four hectares of dry areas have been planted. This work has been done the best in Balashikhinskiy, Klinskiy, Naro-Fominskiy, Odintsovskiy, Serpukhovskiy and Chekhovskiy Rayons, in Podol'sk.

Zhukovskiy, Dolgoprudnyy, Podol'sk, Solntsevo and other cities have accumulated valuable experience in landscaping under winter conditions using large plant material. The Russkiy les Association which creates small architectural configurations and plantings of trees has played a positive role in improving the main routes, the populated areas and rest zones of Podmoskov'ye [Moscow suburbs].

Many of the rural settlements are being built up completely in accordance with master plans. It is important that the residents themselves do a large part of the work of making these improvements. Ramenskiy, Chekhovskiy, Solnechnogorskiy, Noginskiy and Shchelkovskiy Rayons have achieved the best results in mobilizing the population to do this work.

The level of outside improvement of the highways and railroads, Moscow Canal and the territories adjacent to them has been improved. The ispolkoms of Balashikhinskiy, Zagorskiy, Klinskiy, Odintsovskiy, Chekhovskiy, Naro-Fominskiy city and Serpukhovskiy Rayon Councils, the administrations and road maintenance services of the Moscow-Yaroslavl', Moscow-Kiev, Moscow-Minsk highways, the Moscow Division of the Oktyabr'skaya Railroad, the Ryazan', Yaroslavl' and Riga Divisions of Moscow Railroad and also the Moscow Canal Administration have been most successful in the performance of this work.

Socialist competition for all-around beautification and improvement, the participation of Moscow Oblast in the All Russian Competition for Best Performance of Improvement Work and Sanitary Maintenance of the Populated Areas have been powerful means of mobilizing the creative efforts of the workers, finding reserves and mobilizing them. Pushchino was first in the oblast to win the rank of "Well Improved City." The party organizations, the soviet organs, the labor collectives of Balashikhinskiy and Zagorskiy Rayons came up with the initiative to work under the motto: "Highest Level of Improvement and Beautification for the Routes to the Olympics."

Nevertheless, the speaker and the deputies noted the presence of serious deficiencies, for the elimination of which the meeting adopted a resolution.

The most important problem of the ispolkoms of the local councils of people's deputies, main administrations, the administrations and divisions of Mosoblispolkom, the collectives of the enterprises, institutions and organizations remains unconditional fulfillment of the plan for all around improvement and beautification of the populated areas of Moscow Oblast in 1976-1980 and additional measures connected with preparations for the 1980 Olympic Games in Moscow on the basis of the further development and improvement of socialist competition.

The ispolkoms of the rayon and municipal councils, the main administration of capital construction of Mosoblispolkom, Glavmosoblstroy and the oblast administration of city management are obligated to take measures to complete the complexes of socialist centers, city squares, shorelines, parks, squares and boulevards in the fastest possible time with the application of advanced plans and modern building materials, the organization of residential-communal maintenance services and high quality operation of the residential buildings in the sovkhozes and kolkhozes.

It is recommended that the initiatives of the advanced collectives be introduced everywhere to find new reserves for beautification and improvements. It is necessary to complete the improvements on all the state buildings, the industrial enterprises and individual residences in 1979.

The oblast administration for residential management, the ispolkoms of the rayon and city councils and the department heads are to develop and implement measures to improve the maintenance of the residential buildings, increase the volumes of capital and current repairs of the buildings.

The meeting obligated the ispolkoms of the local councils and the oblast administration of the city management to increase the production and sale of plant material for providing green belts and areas and for landscaping the populated areas, expansion of the assortment and improvement of the quality of this plant material. It is proposed that the forestry administration clear an area of 832 hectares and clean up an area of 141 hectares of forest adjacent to the Olympic routes.

The decision was made to allocate 10 million rubles to additional improvements and beautification in 1979-1980 in connection with preparation for the 1980 Olympics.

Member of the Central Committee of the CPSU, First Secretary of the Moscow Oblast Committee of the Party V. I. Konotop participated in the work of the meeting.

COPYRIGHT: Stroyizdat, 1979

10845
CSO: 1821

CONSTRUCTION

OLYMPICS FIRING RANGE IN MYTISHCHI

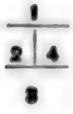
Moscow STROITEL'STVO I ARKHITEKTURA MOSKVY in Russian No 10, Oct 79 pp 13-16

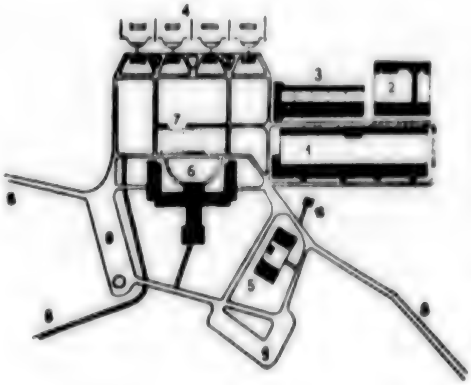
[Article by Architect V. Fedorov]

[Text] As is already known to fans of shooting, for the shooting competition at the 22d Olympics Games a decision was made to rebuild the largest Dinamo firing range in the country in the Moscow suburb of Mytishchi.

In order to create the most favorable conditions for the Olympics, it was necessary to rebuild and expand the firing range, converting it into a modern sports complex corresponding to the most demanding requirements.

It is no secret that remodeling is frequently conducted with greater difficulties than building a newly designed complex. The collective of planners and designers was faced with a difficult problem: to take into account not only the developed planning structure and basic buildings of the firing range, but also when developing the master plan and the design for improvements to preserve the green areas in the territory which is adjacent to a woods.





The new elements of the firing range were erected at the site of razed dilapidated and useless structures, in areas that were not planted.

The firing range territory includes a main building, an auxiliary building with storage for weapons and a weapons workshop; a range of 90 firing locations with stands for 1150 spectators for 50 meter firing targets with a black circle; a range for 16 firing places with stands for 550 spectators for firing pistols at silhouettes at a distance of 25 meters; a range of three firing places with stands for 330 spectators for firing 50 meters at a "running boar" target; four combination sites for competition on round and trench stands with collapsible stands for 300 people at each site; engineering buildings -- boiler room, transformer substation, water collecting structures -- small architectural structures -- stands with an honorary pedestal, tunnels, flag poles, signs, temporary kiosks, public eating pavilions; roads, engineering networks and communications.

The basic planning axis of the firing range was determined by placement of the symmetric main building and orientation of the firing structures to the north. On this axis in front of the main facade of the building there is a square with flagpoles for the flags of the countries participating in the games; parades and presentation of awards to the participants in the competition will take place here.

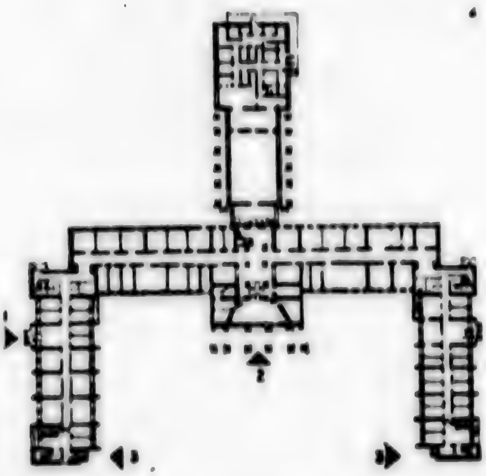
Directly beyond the square on the same axis hidden by a green barrier of spruce and shrubs four matched platforms have been set up for stand firing. Striving for maximum concentration of all the structures designed for competition, the designers have located the stand platforms and safety zones at the sites of razed dilapidated ranges with wood galleries not equipped with bullet traps.

Keeping the existing building, the authors of the plan have supplemented it with two three-story additions. This has made it possible to give the building a new appearance while maintaining symmetric composition.

In the two annexes there are hotel rooms with loggias with all the conditions for the athletes to rest comfortably, halls, a medical aid station, and administrative rooms.

In the central part of the building on all three floors there are two conference halls for the correspondents and judges, a press bar, a communications division, rooms for official representatives of the MOC and the international shooting union and also engineering and auxiliary facilities.

All the groups of facilities designed for the athletes, official representatives, judges and the press are isolated from each other and have their own entrances making it possible to avoid the intersection of pedestrian traffic.



1. Dinamo firing range. Main building and square for parades and awards.
2. Master plan:
   1 -- range for firing 50 meters; 2 -- range for firing at a "running boar" target; 3 -- range for firing 25 meters; 4 -- stand platforms; 5 -- auxiliary buildings; 6 -- main building; 7 -- square; 8 -- control and admission station; 9 -- parking lot; 10 -- transformer substation.
3. Combination platform for competition.
4. Plan of the second story of the main building.
   Entrances: 1 -- for the judges; 2 -- for official representatives; 3 -- for participants in the competition

When resolving the architectural appearance of the complex the authors achieved a harmonious combination of new buildings with the architecture of the retained and surrounding picturesque landscape. The rejection of the rigid forms of panel construction and large glassed areas made it possible to create "soft" architecture with a characteristic silhouette of buildings, high sloping tile roofs and a deep plastic effect of brick walls.

The application of such material as gold-yellow facing brick on the walls of the buildings, the firing galleries and the small structures and also red tile on the roofs of the main building, the entrances to the shooting ranges and the booths for the round stands offer the possibilities in combination with the dark brown wooden paneling of the enclosure of the loggias and facing of the cornices, to give a warm color to the entire firing range complex.

In connection with the application of brick in the new structures their structural layouts were also determined -- bearing longitudinal and transverse walls. The reinforced concrete frame was used where large spans are functionally necessary (for example, on the firing line of the shooting gallery).

The experience of the best firing ranges in the world was used in equipping the pavilions, galleries and the target lines with shelters for the judges and service personnel.

Reliable bullet traps, shields, and underground passages and shielded corridors of the galleries, signals and enclosed zones guarantee complete safety for the participants in the competition, the judges and spectators. All of the galleries are equipped with fully automated target and judge-information equipment systems facilitating the work of the judges and insuring fast information about the course and results of the competition.

The firing ranges are saturated with technological, operational and other forms of communications, and the automatic control system helps process the competition results in a shorter period of time.

According to the recommendations of the Scientific Research Institute of Structural Physics, the noise absorption in the firing galleries is realized by the construction of a suspended ceiling and special facings on the walls.

The 50-meter firing range has a shelter on the target line. The structures of the combination stand platforms are basically underground. The trench for the throwing machines is made of prefabricated reinforced concrete elements of individual manufacture, and the underground gallery connecting the trench to the operator's booth is made of prefabricated wall modules and slabs.

The outside booths of the round stands are kept in the style of the firing range buildings.

In the design of many of the interiors wood was used (the hotel rooms, the conference hall, the cafe-bar, the spectators' seats in the firing galleries).

For the shooting fans the road to the firing complex will take no more than a half hour. From the Yaroslavl' railway station there is an electric train that will bring them to the Dinamo station in 20 minutes, and from the railroad platform to the firing range complex it is no more than 5 minutes.

Let us remember that in July of this year the Dinamo firing range was made available for the competition of the 7th annual Spartakiad of the peoples of the USSR for shooting.

During the Spartakiad, the technical information means, communications, the automatic control system and the firing equipment which must be used at the 22d Olympic Games were tested out.

The athletes, the judges, the press and the guests -- all gave high praise for the operation of the communications and information systems and the firing range equipment. They noted the successful architectural and planning solution to the structures and their interiors. The newspaper "Neues Deutschland"(GDR) called the firing range in Mytishchi the "most modern and most beautiful in Europe."

It must be noted that the authors collective headed by architect N. Drutskiy made up of architects A. Yermolychev, R. Rudakova, N. Gorbatova, engineers B. Feoktistov, N. Leferova, E. Belousova, Ye. Makarov and the construction workers of the 1st construction and installation trust applied every effort to transfer the complex to the hands of the sportsmen on schedule.

COPYRIGHT: Izdaniye Mosgorispolkoma, 1979

10845
CSO: 1821

GENERAL REVIEW OF HOUSING, INDUSTRIAL CONSTRUCTION IN KAZAKHSTAN

Consolidation Needed

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 27 Nov 79 p 2

[Article by R. Khanbalikov, deputy manager of the Alma-Atinskaya Oblast Office of USSR Stroybank: "The Square Meter"]

[Text] In the first three years of the 10th Five-Year Plan more than 1,239,000 square meters of housing was built in Alma-Ata through state capital investment. Home building is now expanding even further in the capital of Kazakhstan. However, despite definite progress, the plan for putting buildings into use is not being met.

This sets the challenge: make up lost time and by the end of the five-year plan reach the control figures. To do this it will be necessary in 1979 alone to introduce 450,000 square meters of housing. Let us analyze the cost of one square meter of such buildings built in the city and in the oblast.

This cost is lowest where the most economical standard designs are used and construction is carried on by large developments, called microregions. In Kapchagay, for example, the cost was 172 rubles last year, and this year it is planned to be 192 rubles. Residential buildings there are built according to a ratified master plan by a big contracting organization, the Alma-Ata Home-Building Combine, directly monitored by administrative agencies.

Housing is more expensive in Alma-Ata. The average estimated cost of one square meter last year was 206 rubles, and at projects financed by institutions of USSR Stroybank it will be 215 rubles in 1979.

This shows who has taken too much money from the state. A square meter of total area in buildings purchased by USSR and USSR-republic ministries and departments cost 14 rubles more than in the buildings of local Soviets, and 18 rubles more than buildings constructed using model designs.

It has been clear for a long time that the best thing in large cities is to concentrate housing construction in the hands of a single purchaser who should build up areas in large developments, employing large contracting organizations and making maximum use of industrial work methods. It would appear that there is such a single purchaser in Alma-Ata, the administration of capital construction of the city executive committee. But it manages just 53 percent of housing construction today, and the remaining 47 percent is done by other purchasers.

There were 72 purchasers in Alma-Ata last year. They built 272 residential buildings; local Soviets account for 165 of these. Almost every one of the remaining 107 buildings was built following an individual, uneconomical design, with the permission of republic Gosstroy, of course. Therefore they are expensive. The average estimated cost of one square meter of housing at new units belonging to USSR and USSR-Republic ministries and departments last year was 223 rubles.

There are also some odd "records." For example, a square meter in the 55-apartment building of the Kazpromtekhmontazh [Kazakhstan Industrial Technical Installation] Institute with a built-in food store on the corner of Gogol' and Murabayev streets cost 345 rubles, and in the 32-apartment building with built-in cafe on Dzhandosov Street, purchased by the Kazmekhanobr [Kazakhstan Scientific Research Institute of Mechanical Processing of Minerals] of the USSR Ministry of Ferrous Metallurgy, a square meter cost 395 rubles.

To some extent the planning agencies are at fault for this high cost of construction,alongside the purchasers, and the republic Gosstroy is also to blame because it is remaining on the sidelines and, using the authority it has been granted, continues its "generous" practice of passing out permission to use individual and cancelled uneconomical plans.

Experience has shown that good results can be obtained by following the practices used in Orel to improve the planning and organization of housing and civil construction. Under this method the calculation is made for two years (preparatory and start-up), which makes it possible to have all technical documentation at the proper time, find optimal solutions in providing necessary resources to construction sites, and concentrate personnel and equipment at start-up projects. The continuous Orel process also guides all collectives participating in construction to absolute fulfillment of assignments at the times set by the schedule.

In order to achieve broad introduction of the Orel system and of methods of comprehensive flow construction of housing, cultural-domestic projects, and municipal facilities and to insure an increase in work quality, smooth launching of units, and efficient use of capital investment, the Alma-Ata city executive committee has decided, beginning with 1980, to assign the functions of single purchaser to its administration of capital construction.

It is also recommended that incomplete construction projects, estimate and plan documents, funds for equipment, and the like be adopted in the established manner in 1979. For now everything remains as before, and the administration has not become the single purchaser. Land has been assigned to many other purchasers, but for various reasons construction is not beginning. Furthermore, the Kazakh SSR ministries of Health, Motor Vehicle Transportation, Finance, and Higher and Secondary Specialized Education as well as the Kazakh Civil Aviation Administration, the Kazmekhanomontazh [Kazakhstan Machine Installation] Trust of the USSR Ministry of Installation and Special Construction Work, and others continue to act as independent purchasers.

It has often been said here that the single purchaser should really be the only one, that contracting organizations building housing in the city must be taken under control and not permitted to do construction and installation work for other administrations. However, nothing is changing at present. This can no longer be tolerated. The ruble shows this very graphically. It also illustrates that the most efficient way to build housing is to use model designs with calculations by the listed price of one square meter of total area at large-scale construction projects.

But even here we have some troubles. The home builders use the price list only for series 1KZ-464DS model buildings, which do not account for more than 70 percent of the combine's total production volume. As a result planning institutes have to compile an estimate for each building using working drawings with all their utility lines. Incidentally, almost half of the planning institutes served by Stroybank are engaged in development of housing construction documents for their own ministries and enterprises. At the same time, we have the primary planning institute Almaatagiprogor [Alma-Ata State City Planning Institute].

Calculations based on estimates for individual residential buildings and projects allow these institutes to include additional expenditures, and they are not always related to housing. Needless to say, this does not inspire construction workers to be thrify with state money.

Many problems are also identified in the planning and installation of utility grids, resulting in frequent plan changes and alterations when construction is already underway. As a rule, when organizations are making arrangements for connecting up to utility lines they do not establish connection points with nearby trunk grids; on the contrary, they have an interest in installing lines over fairly long distances. It must be assumed that all this is being done with the knowledge of the city Main Architectural and Planning Administration, which issues assignments for planning without a thought about the cost to the purchaser of one square meter of total housing area.

It is relevant to point out here that as far back as 1971 USSR Gosstroy laid out strict rules for the composition of expenditures and procedures for applying them to the estimated cost of housing construction. According to the requirements these expenditures for development of city utility grids beyond the boundaries of the block or microregion should not be included in the calculations for housing. Nonetheless, agencies making expert examinations ignore these requirements and do not remove such expenditures from the plans in the ratification stage.

All this happens because Alma-Ata has no division or group to monitor the planning and installation of utility lines, as other large cities in the country do. The installation of these grids should, in fact, stay ahead of the construction of residential buildings.

In 1979 the republic Council of Ministers, for the purpose of straightening out housing construction, approved a planned structure and cost of housing construction, which had been coordinated with USSR Gosplan and the USSR State Committee for Civil Construction, and set the average calculated cost per square meter of total area for construction in the city of Alma-Ata in 1980 and 1981 at 191 rubles. Now every building has a control figure which will make it possible to keep track of economical use of capital investment and preclude excesses.

General Secretary of the CPSU Central Committee, Chairman of the Presidium of the USSR Supreme Soviet Comrade L. I. Brezhnev has pointed out that no cause today is more important than economy, making optimally efficient use of all our potential and wealth. This requires new approaches to capital investment policy. We must revise planning, management methods, and the system of indexes and material stimulation.

The questions of construction economics are taking on particular importance in meeting these challenges. Each ruble of public money should be used with maximum effect.

Our principle reserves for stepping up the pace of construction and reducing its cost are large-panel home building, faster incorporation of the new standardized 69-S series of residential buildings, and switching from five-story to nine- and 12-story buildings, which will make it possible to reduce construction expenditures by 5-7 percent, save significantly on manpower, and reduce construction time. Therefore, the home builders must raise the combine's capacity after reorganization to the planned capacity, that is, 425,000 square meters of total space a year, more rapidly.

In short, solving these problems will help build more houses and reduce their cost.

Construction Problems in Alma-Ata

Moscow STROITEL'NAYA GAZETA in Russian 14 Dec 79 p 2

[Article by R. Khanbalinov, deputy manager of the Alma-Atinskaya Oblast Office of USSR Stroybank: "What the Ruble Has Learned"]

[Text] First I will mention a good initiative. The collective of the Alma-Ata Home-Building Combine is erecting nine-story series E-147 buildings in the capital. They are attractive, convenient, and have earned a good reputation among residents. However, these buildings are much less "popular" with the construction workers themselves. The reason is their high labor-intensiveness; a square meter of housing space in them is 5-7 percent more costly than in the five-story buildings erected by the same combine.

The search for ways to reduce construction costs has led to a new initiative in the city. The collectives of the home-building combine, the administration of capital construction of the city executive committee, and the Almaatagiprogror and Kazgorostroyproyekt [Kazakhstan State Planning Institute of Urban Construction] institutes have concluded an agreement on multifaceted cooperative competition. It is contemplated that a reduction in the cost of residential buildings and acceleration of the pace of work will be achieved on the basis of mutual help and monitoring fulfillment of obligations by each of the participants.

The agreement was signed at a ceremony in the Palace of Culture of the Home-Building Combine. A coordinating council was set up and a work plan was written for it. But then the initiative began to wane. The council met only occasionally, not all members were present, and those present mainly complained about one another.

In short, a valuable initiative did not come off. But perhaps it was not that valuable, if reputable organizations refused to support it? Let us not be hasty with our conclusions.

Housing construction expands each year in Alma-Ata. In the current five-year plan more than 1,239,000 square meters of housing has been put into use. Where 72.3 million rubles was allocated for this purpose in 1976, the figure today is 90.8 million, 13 percent more. It is natural to wonder: how is this money being used?

Analysis shows that the average cost of one square meter of total area at housing under construction in Alma-Ata was 206 rubles last year, while this year it has already risen to 215, which is nearly 20 rubles over the planned figure. But these are average indexes. Some purchasers are real record-setters when it comes to high construction costs. Thus, a 55-apartment building for the Kazpromtekhmontazh Institute cost the state 345 rubles per square meter and the 32-apartment building of the Kazmekhanobr Institute cost 395. There are even buildings where the cost of a square meter is estimated at more than 400 rubles.

When you begin looking for the origins of the high cost of housing, two factors are mentioned first of all. These are the fact that these buildings have special built-in facilities and that they use expensive materials for exterior finishing. But this explanation is only partly true. The main cause lies elsewhere.

There are more than 70 purchasers of housing in Alma-Ata today. Last year, for example, they built 272 residential buildings. The administration of capital construction of the city executive committee accounted for 165 of them. The remaining 107 were built on orders from various ministries and departments, and they all permitted the costs of their projects to go too high.

They try by hook or by crook to get plots of land allocated, and then they begin "assaulting" republic Gosstroy for permission to use individual plans. Unfortunately, Gosstroy is unjustifiably generous in giving permission, sometimes without even checking on how these organizations have carried out plans ratified earlier.

Another factor that leads to broad use of individual plans and a corresponding rise in construction costs is that most of the ministries and departments acting as purchasers have their own deparmental planning institutes and use them extensively. The creative collectives are diverted from performance of their direct obligations to draw up plans for residential buildings. The oblast office of Stroybank, for example, now serves 40 planning institutes, and a good half of them are preparing plan and estimate papers for housing construction for their own ministries and subdivisions. At the same time the city has a primary planning institute, Almaatagiprogror.

For some reason people think that if an institute collective can design large plants and factories, it will be easy for them to design housing. And they do draw up the plans. But we cannot ignore here the famous saying, "Don't let the plumber cook your wedding cake." When the departmental plans are examined, many different flaws are usually discovered.

Mistakes in the documents are especially common when planning utility lines. In fact, this is done deliberately. The connection points for underground grids are not planned for the nearest trunk line; rather they try to stretch them as far as possible. This "clever little trick" naturally leads to an increase in the cost of the building. When institutions of Stroybank ran a check on the quality of approved planning and estimate documents developed for departmental construction, they found the estimated cost was 856,000 rubles too high, and 467,000 of this went for overextended underground utility lines.

It is relevant here to point out that as far back as 1971 USSR Gosstroy outlined the composition of expenditures for housing construction and procedures to relate them to estimated cost. According to the requirements of construction norm SN-6-71, expenditures for development of city utility grids outside the boundaries of a residential block or microregion should not be charged to housing construction and apply to the indexes of building cost. However, planners and expert examination agencies ignore these requirements.

There is one more factor which causes an increase in the cost of housing. In recent years Alma-Ata has seen the emergence of a tendency to tear down too many existing structures. In certain years as much as 74,000 square meters of total housing, which was 23 percent of the area of new housing put into use, was torn down. Even in 1978, a fairly good year in this respect, 30,000 square meters of housing was taken down. This was double the permissible figure.

Of course, there is an explanation for everything. Alma-Ata has only limited potential for growth outward. The city's development is also seriously hampered by the fact that it is located in a zone of high seismicity, which discourages the construction of high-rise buildings. The primary residential structure in the city is the five-story building and they are located in already established residential areas where obsolete structures must be torn down. However, buildings that have not outlived their useful lives sometimes are put in this class.

So we see that there are many problems. How can they be solved? We have already mentioned one initiative, the establishment of a coordinating council of the purchaser, planners, and contractor. Unfortunately, it did not have the desired results.

Bigger changes were expected from introduction of the practices used in Orel to improve the planning and organization of housing and civil construction. On 18 October 1978 the city executive committee, with the intention of introducing the Orel system on a broad scale, assigned the functions of single purchaser to its own administration of capital construction, beginning in 1980. It recommended that the administration receive incomplete projects, planning and estimate documents, funds for equipment, and the like. None of these things has been done, however, although time is pressing. Departmental purchasers continue to receive generous allocations of land for construction of housing and material and labor resources are dispersed.

Life itself dictates that construction must be improved. Industrialization and concentration of capital are the only basis for building housing faster, better, and more cheaply.

Construction of Industrial Parks

Alma-Ata NARODNOYE KHOZYAYSTVO KAZAKHSTANA in Russian No 9, 1979 pp 66-68

[Article by Yu. Ponomarev, deputy chairman of Kazakh SSR Gosstroy: "The Industrial Park — Problems of Its Formation and Construction"]

[Text] Since 1963 the Kazakh SSR has followed a policy of building enterprises within industrial parks, because under current conditions this is considered the most expedient and economical form of cooperation among industrial facilities.

The industrial park ["uzel"] is, of course, a group of enterprises with common subsidiary production facilities, systems, and utility lines arranged at one industrial site in compliance with industrial, sanitary, and city-planning requirements. The location of the industrial park relative to settled areas and the natural environment, the size of particular installations, and their three-dimensional layout have a major impact on the environment and creation of optimal conditions for vital human activities.

The economic advisability of constructing enterprises in industrial parks is also apparent. The benefit from realization of the concepts contained in the 397 master plans for industrial parks that have been ratified in the country will be 1.2 billion rubles.

Between 1963 and 1978 two territorial planning organizations, the Kazakh SSR Promstroyniiproyekt [possibly State Scientific Research and Planning Institute of Industrial Construction] and the Karaganda Promstroyproyekt [State Institute for Sanitary Engineering and General Construction Planning for Industrial Enterprises], developed 27 industrial park master plans. Sixteen of them have been ratified; six have been recommended for use for territorial functions; two are being prepared for ratification at the republic Gosstroy. Review of the three other plans was postponed because the ministries and departments did not appropriate capital investment to build the enterprises included in the parks. The ratified plans included 151 enterprises with an estimated cost of 2,084,780,000 rubles, including 153,170,000 million rubles of general park installations. On 1 January 1979 1,230,180,000 rubles, or 58.5 percent, of the capital investment for all 16 industrial parks had been incorporated. Planning proposals have been completely carried out at five industrial parks: Alma-Ata North, Dzhambul Northwest, Ekibastuz North, Yermentau, and Kzyl-Orda (in the community of Pas-Buget). The specific savings of capital investment for these industrial parks was 6.1 million rubles, including 1,080 tons of rolled metal products, 4,120 tons of cement, and 3,300 cubic meters of lumber.

Construction has been completed on the cardboard-rubberoid plant and phase one of the petroleum refinery in the Pavl dar North industrial park and the start-up complexes of the rubber industrial goods plant at the Saransk industrial park have been launched.

However, construction of the other industrial parks in our republic is not going well enough because many ministries and departments run over agreed-upon times for construction of enterprises in their jurisdiction, refuse to perform the functions of head builders for general park facilities and to transfer the necessary capital for them, and do not supply adequate planning and estimate documentation for general park facilities. This leads to unsound time decisions, unjustified expenditures, and failure to launch capacities in operation at the planned time.

The Alma-Ata West industrial park is a typical example. Construction there began in 1966 with a normative period of nine years, but was not completed because several units were excluded from the park, namely the Kazakh SSR Ministry of Light Industry's nonstandardized equipment plant, the Kazakh SSR Ministry of the Food Industry's pastry and confectionary combine, and the centralized mechanical servicing depot for buses of the Kazakh SSR Ministry of Motor Vehicle Transportation. Furthermore, construction deadlines were set back, from 1967 to 1969 for the city dairy plant of the Kazakh SSR Ministry of the Meat and Dairy Industry and from 1968 to 1975 for the city laundry factory of the Kazakh SSR Ministry of Housing and Municipal Services, while the Kazakh SSR Ministry of Meat and Dairy Industry (city milk plant No 2), and then later the Kazakh SSR Ministry of Housing and Municipal Services (streetcar and trolley repair plant) did not want to fulfill the functions of head builder for the heat, water, and sewage systems.

For these reasons the capital investment share payments for general park facilities were not turned over and the enterprises included in the park were forced to build their own boiler rooms or temporarily connect up to the boiler rooms and heat system of the Alma-Ata Cotton Fabric Combine and Bakery No 5. This meant that the 1.7 million ruble benefit planned from cooperation in this area was not received.

The Ust'-Kamenogorsk South industrial park was planned for completion in 1977. The deadline and calculated benefit were not realized because the Kazakh Ministry of Food Industry did not appropriate capital investment for construction of the fruit canning combine, macaroni factory, and bakery, set back the construction time for the beer brewery from 1975 to 1979, while the timetable for the spinning and weaving factory of the Kazakh SSR Ministry of Light Industry was postponed from 1975 to 1979. Furthermore, there was a change of head builders, with appointment of the silk fabric combine instead of the fruit canning combine. Only 47.2 percent of the share capital investments for general part facilities were turned over to the head builder. The master plan of the industrial park needs alteration in view of the change in composition of enterprises.

For reasons such as these, 46 enterprises have been excluded from ratified industrial parks, 46 others included, construction times set back for 41 enterprises, head builders changed in six cases, and just 61.1 percent of capital investment share payments for general park facilities made.

It should also be observed that at the present time the construction of enterprises grouped in industrial parks accounts for about five percent of the capital investment of average annual volume of industrial construction in our republic, that is, slightly more than 130 million rubles a year. Moreover, the economic impact from their construction at present is the lowest in the country: 0.85 percent of estimated cost, while the economic impact for construction of industrial parks in Belorussia is four percent, in Uzbekistan 2.7, and for the entire USSR it is 1.9 percent. There is also a problem with the formation of industrial parks: in the last 14 years 43 master plans for industrial parks have been ratified in Belorussia, while just 16 have been ratified in Kazakhstan. The savings on overhead expenditures of general park facilities in Kazakhstan is 17.5 percent lower than the USSR average.

There could be many fewer unresolved questions related to building industrial parks if the republic Gosplan had a special subdivision for industrial parks which would coordinate questions of the formation of parks, transfer of share capital investment for general park facilities, and supplying equipment to head builders, as well as participating actively in expert technical-economic evaluation of the advisability of construction of enterprises, similar to the division of industrial parks now working successfully at Belorussian SSR Gosplan.

In conformity with the Directives of the 25th CPSU Congress and proposals for a comprehensive program of scientific-technical progress and its socioeconomic repercussions until the year 2000, prepared by Kazakh SSR Gosstroy on the basis of the comprehensive program developed by the Academy of Sciences USSR, USSR Gosstroy, and the State Committee for Science and Technology (chapter eight, "The Construction Complex"), new enterprises being built are to be concentrated in territorial production complexes, with up to 40-45 percent of industrial enterprises located in industrial parks. If just 30 percent of the calculated volume of capital investment planned for industrial construction in Kazakhstan were allocated to industrial parks for this future time, even with the USSR average efficiency of 1.9 percent the republic would save roughly 500 million rubles in the coming years. At the same time the amount of territory built up could be cut by 9-10 percent, construction of utility systems reduced by 10-12 percent, and the number of individual buildings and structures decreased by 20 percent.

Kazakh SSR Gosstroy has a subdivision that does engineering-technical preparation for questions of planning, designing, and building industrial parks. Without effective help from the republic Gosplan, however, the work it does to improve the construction of industrial parks today is inefficient. Only active assistance by Gosplan will make it possible to resolve the questions of timely transfer of capital investment share payments for general park facilities, questions related to ministry and department appropriation of capital investment for normative construction times for their own enterprises, questions of supplying industrial equipment to head builders, and questions of the formation of new industrial parks. All this makes possible a significant increase in the economic efficiency of industrial construction and a rise in its technical level. It allows a reduction in area built up and creates conditions for launching general park facilities and enterprises at the scheduled times, coordinated with citywide utility systems. It will promote optimal development of small and medium-sized cities in Kazakhstan.

COPYRIGHT: "Narodnoye khozyaystvo Kazakhstana", 1979

11,176
CSO: 1821

HOUSING CONSTRUCTION IN UZBEKISTAN CITIES FORECASTED

General Prognosis

Tashkent STROITEL'STVO I ARKHITEKTURA UZBEKISTANA in Russian No 10,1979 pp 29-32

[Article by Engineer A. Ye. Borodin (Gosstroy of the Uzbek SSSR), Candidate in Economic Sciences I. I. Borovkov, Economist A. E. Baraz, and Engineer N. I. Tsikonovskiy (Tashkent ZNIIEP): "Prospects for the Development of Housing Construction in the Cities of Uzbekistan"]

[Text] A rise in the standard of living of the people and a solution of the housing problem are determining the necessity for an accelerated development of housing construction in the cities and urban type settlements of the republic. During the years 1959-1978 the number of inhabitants in all of the cities and urban type settlements of the Uzbek SSR increased by 2.3 times, and the total number of cities during this period doubled. At the present time 6.4 million people, that is, 41 percent of the population of Uzbekistan, live in cities and urban type settlements. In the future the growth rates of cities will also be high and more than half of the republic's population will live in cities and urban type settlements.

[Table 1 on following page]

Table 1.

Predicted structure of housing construction in the cities and urban type settlements of the Uzbek SSR by structural types of houses (Percentage of the total amount of construction carried out on the basis of state and housing construction cooperative funds)

Oblast Centers and oblasts without centers	In the next few years				In the future		
	Large Panel	Frame-Panel	Brick	Monolithic	Large Panel	Brick	Monolithic
Nukus	80-85	* 5	5-10	* 5	75-80	5-10	10-15
Karakalpak ASSR	35-40	--	60-65	--	35-40	60-65	--
Andizhan	35-40	5	50-60	5-10	75-80	5-10	15-20
Andizhanskaya Oblast	--	--	100	--	15-20	80-85	--
Bukahara	75-80	--	15-20	5-10	*70	10-15	15-20
Bukharskaya Oblast	40-45	--	* 40	10-15	50-55	30-35	10-15
Dzhizak	80-85	--	5-10	10-15	70-75	5-10	* 20
Dzhizakskaya Oblast	60-65	--	35-40	--	75-80	20-25	--
Karshi	*85	--	5-10	5-10	85-90	5-10	5-10
Kashkadar'inskaya Oblast	*50	--	*50	--	30-35	65-70	--
Namangan	80-85	--	5-10	10-15	75-80	5-10	* 15
Namanganskaya Oblast	40-45	--	55-60	--	25-30	70-75	--
Samarkand	85-90	--	5-10	5	80-85	5-10	* 10
Samarkanskaya Oblast	50-55	--	45-50	--	70-75	25-30	--
Termez	90-95	--	5-10	--	80-85	5-10	* 10
Surkhandar'inskaya Oblast	* 50	--	* 50	--	55-60	40-45	--
Gulistan	80-85	--	5-10	*10	80-85	5-10	10-15
Syrdar'inskaya Oblast	* 80	--	* 20	--	* 80	*20	--
Tashkent	75-80	3	10-15	5-10	80-85	5-10	10-15
Tashkentskaya Oblast	80-85	--	15-20	5	75-80	15-20	5-10
Fergana	* 90	--	5	5	* 90	5	5-10
Ferganskaya Oblast	45-50	--	50-55	--	40-45	50-55	5
Urgench	80-90	--	20-25	--	50-55	45-50	--
Korezmskaya Oblast	75-80	--	20-25	--	50-55	45-50	--
Total in the Republic	65-70	*1	25-30	* 5	65-70	20-25	7-10

*About

Table 2.

Recommended amounts of construction of 9-story residential houses in the cities of the Uzbek SSR (Percentage of total amount of housing construction carried out on the basis of state and housing construction cooperative funds)

Seismic Sensitivity of territory, points	Size of city, thousands of inhabitants					
	In the next few years			In the future		
	250-500	100-250	50-100	250-500	100-250	50-100
With the construction of large panel houses						
Non-seismic	20	15	5	25	20	10
7	15	10	5	20	15	10
8	10	7	--	15	10	5
9	5	--	--	10	7	--
With the construction of monolithic houses						
Non-seismic	25	20	10	30	25	15
7	20	15	7	25	20	15
8	15	10	5	20	15	10
9	10	7	--	15	10	5

The increase in the size of our population and cities is being accompanied by an increase in the housing fund. Compared to 1965, in 1978 the republic's total urban housing fund increased by almost two times while the increase in the urban population during this period was 1.7 times. The basic source of the increase in the urban housing fund is the commissioning of new capital well-constructed buildings. Today, around 2.5 million square meters of space, including 2 million square meters, on the basis of state funds, are being commissioned every year in our cities and urban type settlements. The amounts of construction which have been achieved, the preferential growth rates of the housing fund compared to the growth of the population, the growing amount of state funds in the total amount of housing construction, and the wide use of new model plans are leading to an increase in the housing supply for the population.

At the present time a complex of measures is being carried out to expand the scope and improve the quality of housing construction in the republic. In this connection, the capacities of large-panel house construction enterprises will increase by 1.8 times. At the same time, these enterprises will be shifted to the production of new series of residential houses and block-sections.

The measures which have been planned will make it possible in the next few years to increase by 1.6 times the commissioning of residential houses which are being built in the cities and urban type settlements on the basis of state and housing consumer cooperative funds and to substantially increase the supply of modern well-built housing for the urban population.

The broad prospects for the development of housing construction and for the improvement of its quality which are opening up are also putting forward new and higher demands upon the effective use of the increased capital investments in this branch of construction. An increase in the efficiency and quality of housing construction has to be achieved by defining a rational structure for housing construction by types and numbers of floors of buildings, by improving the quality and the economy of planning solutions, and by the industrialization and improved organization of construction production.

The definition of an efficient structure of housing construction consists in the selection of economically substantiated structural types of buildings and of a rational height for housing in accordance with the local urban construction, natural and climatic, and engineering and geological conditions, the achieved level of and prospect for development of the material and technical base of construction, and the architectural composition requirements on urban building; of a rational settlement plan for different types of families and population in the city; of the effective use of its territory; and an economy of capital and operating expenditures and also of expenditures of labor and metal in housing construction.

From these positions the basic structural type of residential house for mass construction in the cities of Uzbekistan is the large-panel house as the most earthquake-resistant and economical and whose labor intensiveness and construction time is [illegible] times lower than that of brick houses. With an increase in transport [illegible] distances for plant produced products, the efficiency of large-panel [illegible] construction decreases. As a result of this, the necessity arises for establishing rational zones of operation for house construction combines in relation to the distance of shipments and the seismicity of the construction area. The planning and financing of housing construction in accordance with the operational zones which are established for house construction combines will make it possible to eliminate irrational counter and excessively long shipments of products for large-panel houses and to limit construction in these zones of brick houses, and this will increase the work load of capacities of large-panel house construction. Within the operational zones of the house construction combines the share of large-panel house construction in the total amount of urban housing construction should come, as a rule, to 70 to 80 percent. Large-panel houses are the basic type of four- to five-story housing construction. In the operational zones of the Tashkent, Chirchik, Samarkand, and Fergana house construction combines nine-story and, in part, twelve-story buildings will also be built of large panels.

Since large-panel house construction is the dominant type of urban housing construction (its proportion in 1978 came to 66 percent), the degree to which urban construction and demographic requirements are satisfied depends basically upon it. For this reason, among the most important tasks of house builders is an acceleration of the shift by house construction combines to the production of products in accordance with the new plans and the complete mastery of the production of the necessary products lists of houses and block-sections which provides for the architectural diversity of urban construction and the rational settlement of various families. The development of large-panel house construction does not exclude building residential buildings from brick. In 1978 brick buildings accounted for 28 percent of the total area which was put into operation in our cities on the basis of state and housing cooperative combine funds. As a result of high seismicity the laying of small bricks has to be replaced in the future by vibration-brick panels whose use not only increases the earthquake-resistance of a building, but also decreases labor intensiveness and the length of construction by 20 to 30 percent. The brick house is the basic structural type for one- and two-story housing construction; four- and five-story brick buildings may be built outside of the operational zones of house construction combines and in cases when there are insufficient capacities and an insufficient products list at large-panel housing construction enterprises, and also for the construction of important urban construction sections where it is necessary to develop plans for individual houses and for insertions with built-in public primary service facilities.

[Table 3 on following page]

Table 3

Predicted Structure of housing construction in the cities and urban type settlements of the Uzbek SSR by number of stories in houses (Percentage of the total amount of housing construction being carried out on the basis of state and housing construction cooperative funds)

Oblast centers and oblasts without oblast centers	In the next few years				In the future			
	Number of stories							
	2	4-5	9	12-16	2	4-5	9	12-16
Nukus	5	85-90	10	--	5	80-85	10-15	--
Karakalpakskaya ASSR	45-50	50-55	--	--	20	80-85	--	--
Andizhan	5	85-90	5-10	2	3	80-85	10	5
Andizhanskaya Oblast	50-55	45-50	--	--	20	80-85	--	--
Bukhara	10	80-85	5	2	10	70-75	10-15	5
Bukharskaya Oblast	25-30	55-60	10	3	15	70-75	10	5
Dzhizak	5	80-85	5-10	5	5	75-80	10	10
Dzhizakskaya Oblast	35-40	60-65	--	--	20	80	--	--
Karshi	5	85-90	5-10	--	5	85-90	5-10	--
Kashkadar'inskaya Oblast	25	75	--	--	10	90	--	--
Namangan	5	80-85	10-15	--	3	80-85	10-15	2
Namanganskaya Oblast	30	70	--	--	10-15	85-90	--	--
Samarkand	5	50-55	40		5	65	20	10
Samarkandskaya Oblast	20-25	60-65	15-20	--	5-10	75-80	15	--
Termez	5-10	90-95	--	--	5	85	10	--
Surkandar'inskaya Oblast	30-35	65-70	--	--	10-15	85-90	--	--
Gulistan	5	80-85	10-15	--	5	80-85	10-15	--
Syrdar'inskaya Oblast	15-20	80-85	--	--	10	90	--	--
Tashkent	0.5	45-50	40-45	5-10	--	25	65	10
Tashkentskaya Oblast	10	60-65	20-25	5	5-10	65-70	20	5
Fergana	1	65-70	30	5	1	70-75	20	5-10
Ferganskaya Oblast	10-15	70-75	10-15	--	10	70-75	15	5
Urgench	5	85-90	5-10	--	5	80-85	10-15	--
Khorezmskaya Oblast	20-25	75-80	--	--	15	85		-
Total in the Republic	10	60-65	20-25	3-5	5-10	60-65	25	5

Monolithic (prefabricated-monolithic) buildings which are built by highly mechanized methods in industrial cement molds are the basic and most effective structural types of high-story residential buildings. The construction of such buildings in volume-adjustable and panel cement molds is expedient with high-rise long buildings and buildings of the point type with a height of nine to twelve stories, and panel cement molds are used, in addition, with a complex layout configuration of buildings. The greatest economic effect from employing sliding cement molds is achieved in building buildings with a height of sixteen stories and more. The method of raising stories and roofs may be employed in limited amounts when construction is taking place in areas with a high density of existing construction and limited construction space. Due to their high estimated cost and large expenditure of metal, the construction of frame-panel buildings is economically inexpedient. Their use may be permitted in negligible amounts in building high-rise buildings with built-in and attached trade and service quarters. Under conditions of high seismicity, height diversity in urban housing construction depends chiefly upon the development of monolithic house construction. For this reason, a most rapid shift from experimental to mass construction of monolithic residential buildings and the mastery of the latter will, to a large extent, determine the quality of construction in the cities of Uzbekistan.

In view of the experience which has been gained in the country in volume-block house construction which makes it possible to reduce labor expenditures at the construction site and to shorten the time of construction and improve its quality, a decision has been made on the construction in Tashkent of a volume block plant with a capacity of 100,000-120,000 square meters. Work has now been completed in the republic on planning proposals for residential houses and their layout and structural solutions have been defined. The development of working blueprints will be completed this year.

An analysis of the tendencies for the development of technological progress in housing construction, a study of the state of and prospects for the development and siting of the production base of large-panel and monolithic house building, and an economic evaluation of the different structural types of buildings make it possible to provide a forecast of the structure of housing constructions by structural types broken down for oblasts and oblast centers (Table 1).

One of the important problems in the development of housing construction is the selection of a rational height for buildings in cities. Compared to 1965, at the present time the area of the republic's cities has doubled basically through the removal of valuable irrigation areas from agricultural turnover. The increase in area is lengthening city communications and increasing the time spent by the population traveling about the city. All of this is causing economic losses and worsening the living conditions of the population. The basic way to limit the expansion of city areas is to increase the height of residential construction and decrease the share of small building construction. In large cities two-story construction should be employed in limited amounts for large families (six people and more), and also to meet the architectural composition requirements which are made upon construction in the vicinity of ancient architectural monuments. In the future, with the development of methods for increasing the density of small building construction and of the use of light effective construction materials and products which reduce the cost of the construction and operation of such buildings and with the development of economical engineering equipment systems for this construction, the share of small-story buildings in the total amount of urban housing construction may be increased. In order to limit small house construction it is also necessary to curtail individual construction in the large cities by means of expanding housing construction cooperation and building multi-story residential houses on the basis of its funds.

The basic height of housing construction in the cities of Uzbekistan which are located in zones of high seismicity is four to five stories. However, the need to reduce the growth of city territories and communications making it necessary to build high-rise buildings in large cities and, above all, the most economical of them -- nine-story buildings. In 1978 the share of these buildings in the total amount of urban housing construction on the basis of state and housing construction cooperative funds came to 10 percent.

An economic evaluation of the structural types of residential houses and the disclosed rational field for the use of high-rise houses in relation to the size of cities and the seismicity of their territory makes it possible to make fundamental recommendations on the amounts of construction of nine-story houses in the cities of the republic (Table 2).

The construction of twelve- to sixteen-story residential houses may be permitted in minimal amounts only in oblast centers and in certain of the largest industrial cities of the republic.

The regional characteristics of construction, the prospects for the growth of the base for large-panel housing construction, the possiblities for developing monolithic house construction, and the principled recommendations on the amounts of construction of nine-story houses are the basis for a forecast of the change in the overall structure of urban housing construction by building height broken down for individual oblasts and oblast centers (Table 3).

Along with the optimization of its structure by types and height of houses, the quality of housing construction depends to a large extent upon a further improvement of the model plans. The greatest attention here has to be given to cities and urban type settlements located in desert and semi-desert zones and also in zones with unfavorable dust and wind conditions. The comfortableness of housing, the planting of green areas, and the beautification of populated sites located in these zones substantially neutralizes the influence on man of unfavorable natural and climatic factors. In the future it is necessary to achieve an equalization of the conditions of life in the different regions of the republic by means of achieving equal housing supplies for the population and creating types of houses which fully correspond to local natural and climatic conditions.

COPYRIGHT: "Stroitel'stvo i arkhitektura Uzbekistana", 1979

Uzbek Flow-Line Urban Construction

Tashkent STROITEL'STVO I ARKHITEKTURA UZBEKISTANA in Russian No 11,1979 pp 1-3

[Article by Architect A. A. Dyadik (Tashkent TNILOUES): "The Introduction of Overall Flow-Line Construction on the Basis of Continuous Planning in the Cities of the Uzbek SSR"]

[Text] One of the stages of improving management in housing, cultural and domestic, and municipal construction is the dissemination of the "Orlov Method" of the continuous planning of overall flow-line construction. Its essence consists in the fact that on the basis of the control figures of the five-year plan for the development of a city a construction plan is worked out for the next few years with a break-down by years and quarters and, moreover, with the plan for the first year of the two-year plan as a working plan, and the plan for the second year as a preparatory plan. At the end of the first year of construction all of the facilities which have been stipulated in the plan not to be completed are included in the plan of the second year with the addition of the necessary amount of residential houses and cultural and domestic and municipal facilities (which have been stipulated by the plan for the second year). The latter becomes the working plan, and for the following year (the third one) a preparatory plan is made up and, in this way, continuous construction planning is ensured. The "Orlov Method" greatly shortens the construction periods for facilities, ensures a stable regimen for commissioning buildings and structures, improves the quality of construction, and increases the profitability of construction production. The effect from the introduction of the "Orlov Method" will consist of: an ordering of construction in a city and a more expendient use of the areas being built up; the overall construction of housing and cultural and domestic facilities; and the creation of good living and recreation conditions in the residential areas which are being constructed.

The use in certain cities of the country of two-year overall continuous planning and of the flow-line method of construction has made it possible in recent years to shorten construction time by 15 to 20 percent, to decrease the number of facilities being built at the same time by 1.5 times, to reduce labor intensiveness by 8 to 10 percent, to reduce the cost of construction and installation work by 4 to 5 percent, and to economize 1,000 to 1,500 rubles for every 1,000 square meters of useful space which is put into operation.

In Uzbekistan in 1978 there was a large number of clients from different departments for the construction of housing and civil facilities: in Tashkent -- 23; in Fergana -- 14; in Samarkand -- 11; and in Nukus and Gulistan -- 8. The large number of clients made the fulfillment of the contracting work programs more difficult and led to a large number of facilities which were being built at the same time and to the dispersion of resources. The organization of a service for a single client creates favorable conditions for the fulfillment of construction plans, for high quality and overall building in a city, and also for economical urban construction. In order to organize overall flow-line construction on the basis of continuous planning in the cities of our republic, it was necessary first of all to concentrate capital investments for housing and civil construction in the hands of a single client -- a gorispolkom or enterprise which performed the basic construction on production and non-production facilities. Beginning with September 1978 the functions of a single client for the construction of residential houses and cultural and domestic and municipal facilities in the cities of Nukus, Andizhan, Bukhara, Dzhizak, Karshi, Namangan, Termez, Gulistan, Urgench, Samarkand, Fergana, Tashkent, Angren, Kokanda, and Margilan were given to the ispolkoms of the city or oblast Soviets of People's Deputies.

In order to organize and achieve the overall realization in our cities of the flow-line construction of residential houses, and cultural and domestic municipal facilities, Gosstroy USSR approved an instruction (SN 508-78) which was put into effect on 1 January 1979 and **Gosstroy** of the Uzbek SSR approved the "Recommendations on the Introduction of Overall Flow-Line Construction on the Basis of Continuous Planning in the Cities of the Uzbek SSR" which had been worked out by the Tashkent Territorial Scientific Research Laboratory for the Organization, Management, and Economics of Construction, and which take account of the specific nature of construction in the republic's cities.

In order for the "Orlov Method" to function it is necessary to carry out a complex of interconnected organizational and technical measures and to develop the technological documentation. The five-year plan for capital construction has to be the basic document here. Proceeding from its indicators, it is necessary to work out a five-year plan for the siting in the city of residential houses and cultural and domestic and municipal facilities, to define the planning structure of this construction, and to work out plans for the detailed layout of city areas which are to be built up during the planning period. On the basis of these materials the general planner with the participation of the single client and the general contractor works out for the city as a whole an overall consolidated network schedule which reflects the amounts and the beginning and conclusion dates for planning and construction work with the following basic types distinguished:

The Development and Approval of Planning and Estimate Construction Documentation at the Stages of the Technical Plan and the Working Blueprints;

The Realization of a Complex of Preparatory Measures: The Granting of Apartments to the Tenants of Houses Which are Being Torn Down in Connection with Planned Construction; the Demolition of Existing Structures; the Physical Laying out of the Planning Lines of the Construction; the Legal Appropriation of the Lands on Which the Construction is to Take Place;

The Construction of the Main Engineering Systems and of Urban Passage Streets;

The Construction of Residential Areas;

The Construction of Public Centers and Individual Urban and Rayon Facilities.

The essential document for the development of the materials on the organization of construction production is the directive schedule for the overall flow-line construction of city areas which defines the sequence and length of the construction of individual facilities located in each of the residential microrayons which are a part of the city (within the limits of the overall length which has been established by the overall consolidated network schedule), and also of public centers and rayon or city buildings and installations. The directive schedule is worked out by the general planning organization within its summary plan for the organization of the construction of facilities by flow-line methods in the overall construction of urban areas which is approved by the ispolkom of the Soviet of People's Deputies and is mandatory for all of the organizations participating in the city construction. The success of introducing the "Orlov Method" depends to a large extent upon its immutability.

It is recommended that the development of the layout planning and planning estimate documentation for the construction of facilities on kolkhoz and sovkhoz lands which are within the limits of cities should be performed on the basis of three-year cyclical planning for the allocation of land plots and the preparation of planning estimate documents.

It is recommended that during the first year an inventory be made of the land plots which have been allocated for construction in the city; a list be drawn up of the residential microrayons and plots for city construction over a period of three years for which it is necessary to legally appropriate lands from the kolkhozes and sovkhozes, requisitions be submitted to the oblispolkom for the allocation of land for the performance of planning and surveying work; an order be issued to the planning institute for the development of detailed layout plans for the residential microrayons and the performance of surveying work for planning be organized. During the second year -- surveying work is concluded, the detailed layout plans are worked out and approved in the established manner, and the assignments are issued for the development of construction plans. During the third year -- the development of a construction plan (technological plans or working blueprints for the facilities) is completed and they are improved, the facilities are included in the title list of construction, the appropriate decisions of the Council of Ministers of the Uzbek SSR are received for the alienation of lands, and planning estimate documents for the construction of the facilities are issued to the general contracting construction organization within the established schedule. During the fourth year (second cycle) -- work is begun on the construction of the residential area, the first-year work for other facilities is begun, and so forth.

The timely preparation of sites for construction is one of the important problems in the introduction of the overall flow-line method of construction in the republic's cities. Its solution is made complicated by the necessity for alienating the kolkhoz and sovkhoz lands within city limits in good time, and also by the substantial demolition of structures in areas of the city being reconstructed, the resettlement of citizens from construction areas, and the allocation of apartments for this purpose. In order to perform this work the administrations for capital construction of the oblast and city executive committees should make up the corresponding work schedules and strictly control their fulfillment. In order to realize the constant day-to-day direction of construction in a city through the methods of overall flow-line construction on the basis of continuous planning it is necessary on the basis of ispolkom decisions to create coordinating councils in the cities or oblasts which will carry out the coordination of the work of all of the organizations which are planning, preparing, and carrying out the construction of the facilities and direct the introduction of the "Orlov Method." Working groups of the coordination council are created at the ispolkom's administration (division) for capital construction.

The successful management of the preparations for the introduction of this method and of the course of the overall flow-line construction depends to a large extent upon a well-organized system of control, clear and reliable information, day-to-day planning, and dispatcherization.

By a decision of the republic's directive agencies it is planned to complete in 1980 the development and realization of measures for the wide introduction of continuous planning and the organization of the overall flow-line construction of residential buildings and cultural and domestic and municipal facilities in the cities. The Central Asian branch of the Bureau for the Introduction of TsNIOMTP [expansion unknown] for Andizhan and Angren has worked out the necessary technological documentation for the organization of overall flow-line construction on the basis of continuous planning which is being used by the administrations for capital construction of the ispolkoms of the Soviets of People's Deputies, and also by the general contracting construction organizations and the Uzgradostroy Association of the Ministry of Construction of the Uzbek SSR. For the remaining cities, except Tashkent, the necessary technological documentation has not yet been worked out.

An analysis of the work to introduce the new method shows that there are serious shortcomings which are holding back its application -- they include imperfections in the existing material and technical supplies for construction projects on the level of the client and contractor and, above all, unpunctual supplies of the necessary materials and cable output for the construction of engineering systems, which violates the technological sequence of the construction of residential microrayons. There are still no two-year plans on the level of branch ministries, departments, and enterprises -- shareholders in the construction of residential houses and kindergartens-nurseries. The substantial increase in the amounts of work and the rise in the technical level of the facilities being built for a single client has not yet been supported by the appropriate personnel and wage level. There are cases when the single client is late in preparing sites for construction (the resettlement of citizens from construction areas, the demolition of structures, the legal appropriation of land) and when residential houses are accepted for operations with a large amount of unfinished work whose elimination disturbs the rhythmical nature of construction. All of these problems require a solution in the appropriate organizations.

COPYRIGHT: "Stroitel'stvo i arkhitektura Uzbekistana", 1979

Capital Investment in Uzbekistan

Tashkent STROITEL'STVO I ARKHITEKTURA UZBEKISTANA in Russian No 11, 1979 pp 3-4

[Article by P.Rakhapov(Administration for the Affairs of the Council of Ministers of the Uzbek SSR):"Certain Problems in Increasing the Effectiveness of Capital Investments"]

[Text] In the decisions of the 25th CPSU Congress it is stated that in capital construction the basic task is to increase the effectiveness of capital investments and to ensure a further growth and qualitative improvement of fixed capital and the most rapid commissioning and mastery of new production capacities in all of the branches of the economy on the basis of an improvement of the planning and organization of construction production and a shortening of the time and decrease in the cost of construction.

Capital construction is being carried out on a large scale in our republic. Compared to the Eighth Five-Year Plan, during the Ninth Five-Year Plan alone total capital investments increased by almost 1.5 times and, on the basis of all financing sources, came to 18.8 billion rubles. The commissioning of fixed capital increased by 1.78 times and came to 13.4 billion rubles, of which 26 percent is accounted for by industry. Such branches of the economy as petroleum, gas, light, machine building, metal working, chemistry, and electrical engineering were further developed.

During the Tenth Five-Year Plan it will be necessary to utilize more than 22.2 billion rubles in capital investments from all financing sources, which is 14 percent higher than the actual utilization level in the Ninth Five-Year Plan. During the new five-year plan the dispersion of capital investments has to be overcome and construction periods have to be shortened.

During the 2.5 years of the Tenth Five-Year Plan definite work has been done to concentrate capital investments. The average planned and the actual periods of construction decreased somewhat during this period. An additional production of output was achieved at a number of enterprises. Thus, for example, as a result of an acceleration of construction an additional 2,000 tons of whole milk output was produced at the Angren City Milk Plant and the Krasnogvardeyskiy Wine Combine processed an additional 2,000 tons of grapes per season.

At the same time, the problems which are connected with increasing the effectiveness of capital investments have not yet found a complete solution. Many facilities are built over a long period of time and for certain enterprises the normed construction periods are exceeded by 1.5 to 2 times: the Novoiyskiy Cement Plant (78 months instead of 34); the oil extraction plant in the city of Urgench (96 months instead of 36); and the dairy combine on the sovkhoz Dal'verzin-1 (36 months instead of 18).

An improvement of planning is of great importance for increasing the effectiveness of capital investments and shortening construction periods. In the final analysis, the quality of plans determines the technological development of the economy at one or another period. In this connection, increasing demands are being made upon the work of planning organizations which provide the technical documentation for housing, industrial, and cultural and domestic construction. In certain planning institutes sufficient use is not being made of the existing possibilities for accelerating the process of planning and improving its quality. This is occurring because none of the planning institutes have long-term plans for the planning and construction of facilities in the near future, which makes it difficult to perform preparations for planning. Usually the annual plan for planning is approved one to two months late. For most facilities clients are supposed to be issued technological documentation by 1 September of the year preceding the planning year. As a result, planners are not left with enough time for a detailed reworking of assignments and technological specifications, for the correct selection of structural elements, and for the verification of calculations and estimates. As a result, planning estimate documentation of low quality and with incompletions frequently arrives at construction sites.

In a number of cases it is economically expedient to build and commission not entire large buildings, but individual technological blocks, which accelerates the commissioning and mastery of production capacities. This has to be taken into account in planning, since an outstripping commissioning of production capacities will substantially increase the effectiveness of capital investments.

The commissioning of fixed capital helps to decrease incompleted construction and excludes the freezing of circulated capital. However, an analysis shows that the commissioning of fixed capital is lagging behind the fulfillment of the capital investments plan.

The 1978 plan in the republic provided for bringing the amount of incompleted construction to 1,290,000,000 rubles, or 63 percent of total capital investments. This required the commissioning of fixed capital in the amount of 2,186,000,000 rubles, or 6.5 percent more than the established amount. Meanwhile, as a result of an underfulfillment of the fixed capital commissioning plan by 132 million rubles or by 6 percent, and an overfulfillment of the capital investments plan by 4 percent, the actual amount of incompleted construction at the end of 1978 came to 1,483,000,000 rubles, or 70 percent of total capital investments.

The basic factors which promote a decrease in the amounts of incompleted construction are: A shortening of construction periods on the basis of the concentration of material and labor resources; and an industrialization and an overall mechanization and automation of construction production and an improvement of the organization of its management.

Supplying construction departments with their own circulating capital also influences a decrease in the amount of incompleted construction. When this supply is at a high level they do not depend upon a client's advances and in this way have the opportunity to decrease the amounts of incompleted production.

A decrease of 20 to 25 percent in their own circulating capital at the republic's construction ministries and departments leads to an increase in incompleted production of 1.5 times, and vise versa.

In a search for improved ways of stimulating an increase in the efficiency of construction, shortening the periods for commissioning facilities, and decreasing the amounts of incompleted production the Ministry of Industrial Construction of be Belorussian SSR and Stroybank USSR are conducting an experiment on providing credit for the incompleted production of each concrete facility with the collection of interest on the credit for a normed amount of incompleted production and of increased interest rates for above-normed incompleted production which occurs in connection with violations of the normed periods for commissioning facilities.

According to the terms of the experiment, the sold commodity output of construction organizations consists of enterprises, start-up stages, and complexes which have been delivered for operations. Construction organizations are obliged to realize their commodity construction output in good time for the wage fund depends upon its amount.

In settlements for facilities which have been completed by construction the construction organizations of the Ministry of Industrial Construction Belorussian SSR do not demand financial resources from the state, but make use of the credit of Gosbank USSR. The loans are issued to these organizations with the funds which have been released at clients as a result of the shift to new forms of settlements -- for finished construction output. The Belorussian experiment represents a new and improved form of effecting cost accounting under which the demands are increased upon planning the organization and management of construction, the quality of and organizational-technological preparation for construction production, and the management of it.

The results of the introduction of the new form of cost accounting relations have demonstrated its high effectiveness: During the first year of the experiment the plan for commodity output sales (the commissioning of facilities) in general contracting was fulfilled by the construction organizations of the Ministry of Industrial Construction of the Belorussian SSR by 100.2 percent; the amount of incompleted construction decreased by 6 percent; the average construction time for facilities decreased by 8 percent; the commissioning of fixed capital increased by 11 percent; and total profits increased by 15 percent.

Calculations show that under the conditions of the Belorussian experiment it is possible to decrease the time for commissioning production capacities and construction facilities by 30 percent and thereby ensure compliance with the construction time norms;

To Substantially Decrease the Amounts of Incompleted Construction and to Bring it by 1980 to 65 Percent of the Annual Amount of Construction and Installation Work (in 1975 -- 83 Percent).

At the same time, the work practice under the new conditions of the republic's construction organizations has shown that the efficiency of construction production is negatively effected by shortcomings in planning, by the uneven distribution of amounts of construction and installation work, and of facilities which are being commissioned by the months and quarters of the year, and by inclusion in the work program of facilities which have not been provided with planning estimates and with the demolition of structures. The necessity has arrived for deciding upon the introduction of a single planning indicator for commodity construction output for the contractor and for the client, which increases the responsibility of both for the quality of the composition of the planning assignments and for their fulfillment.

COPYRIGHT: "Stroitel'stvo i arkhitektura Uzbekistana", 1979

Uzbek Capital Construction

Moscow STROITEL'NAYA GAZETA in Russian 16 Jan 80 p 1

[Article by A. Khodzhayev, Secretary of the CC of the Communist Party of Uzbekistan: "An Efficient Rhythm from the First Days"]

[Text] The vital questions of capital construction for which concrete decisions are made and carried out are regularly discussed at Plenums of the CC of the Communist Party of Uzbekistan, meetings of the buro, and meetings of the republic's party economic aktiv. Under the leadership of the CC, twice a year at four points in the republic -- Tashkent, Fergana, Samarkand, and Nukus -- practical meetings take place between the managers and chief engineers of the trusts of various ministries and departments for the purpose of exchanging advanced experience in economic management. Similar training is also carried out with the chiefs of administrations, superintendants, foremen and team leaders.

At all of the large construction sites in the republic party headquarters are created which are led by the secretaries of the party obkoms, gorkoms, and raykoms. They coordinate the work of economic managers in such fields as the best use of human and material and technical resources and the interaction of all participants in construction. In Almalyk, Angren, Fergana, and other cities, temporary party organizations and party group councils are frequently created. This helps to have a more active influence on production affairs.

Practical results in physical indicators have become the chief criterion in totaling up the results of a competition. We also consider such factors as the punctual provision of a work front for related organizations in the course of the fulfillment of socialist commitments. Last year the "Work Without Laggards" movement received a further development. The team contracting method was used in the republic by more than 3,500 teams which performed more than 40 percent of the work. And in the Uzbekshakhtostroy Trust all of the collectives are working according to the Zlobin method and it is not accidental that this trust overfulfilled its assignments for all technical and economic indicators.

Unfortunately, owing to the dispersion of capital and resources the amounts of "incompletes" are being reduced slowly. This applies above all to the ministries of power engineering and electrification and of municipal services. Localist and departmental tendencies have not yet been gotten rid of everywhere. As a result of a number of reasons, basically owing to disruptions of deliveries of equipment and special materials or their late receipt, it was not possible to commission a complex for the production of flat slate in Kuvasay, a combined feed concentrates shop in Kasan, and a number of other facilities.

Enterprises and client organizations must show concern in good time for having all of the construction projects of 1980 provided with punctual financing and fully outfitted with technological equipment on schedule. It is a top priority of construction and installation organizations to concentrate from the first days of the new year a sufficient quantity of human and material and technical resources at start-up projects, to work rhythmically, and to decrease incompleted construction.

In 1980 capital investments based on all financing sources will come in the republic to 5,214,000,000 rubles, which is 3 percent more than the 1979 level. New energy blocks at a number of electric power stations and capacities at the enterprises of ferrous and non-ferrous metallurgy and chemistry will have to be commissioned.

There is still another group of priority construction projects -- these are facilities for group "B." New capacities have to built at the Namangan Rug Fabrics Combine, the Bukara, Andizhan, and Fergana Textile Combines, the Margilan"Atlas" firm, and also the Pap Non-Fabric Materials Factory, and the Kasan Oil Extraction Plant.

2959
CSO: 1821

CONSTRUCTION

ESTONIAN HOUSING RENOVATION PROBLEMS

Moscow PRAVDA in Russian 13 Oct 79 p 3

[Article by M. Buzhkevich and D. Klenskiy: "Ask for Help"]

[Text] Workers arrive in the mornings at a two-story structure of house No 30 on Tallinskaya Ulitsa in Graniydi to do major overhaul work which began in June 1975 and which was to have been completed by October 1976, but which is still going on today.

"Like other repair workers," says carpenter E. Loosaar, "we are constantly moved around from house to house. Some places lack materials, rush jobs are declared elsewhere."

There are many examples of "delayed action" repairs. The Estonian SSR Minister of Housing and Municipal Services, A. Blum, noted in a special order this summer that the plans for renovating housing were not being carried out in a number of republic cities and rayons. Certain houses in Tallin, Narva, Tartu, Valga and Vil'yandi were being repaired several times slower than the established schedules.

It cannot be said that the ministry is not concerned about improving the content and repairing housing. Housing operation administrations with routine maintenance sectors available to them were created in Estonia earlier than in a number of other republics on a base of small house administrations. Production workshops were built for them. Enterprises doing major overhaul work were also consolidated -- specialized republic and Tallin-city trusts are in operation.

A large program has been planned by the branch staff and by the Estonian SSR government to actualize the decree adopted in September last year by the USSR Council of Ministers on steps to continue improving the operation and maintenance of housing. There will be a further restructuring of its management, in particular based on the experience of Novosibirsk: production housing maintenance associations are to be formed. An industrial base is being built in Tallin, which will permit us to expand the renovation of houses.

There are definite advances. Whereas last year the ministry coped unsatisfactorily with major repairs, it is now working better. Still, when you look at the two-story house on Graniydi Ulitsa where they have been working for five years now you understand that the situation is changing slowly in the branch. One of the main illnesses is the scattering of forces and funds among numerous facilities, and it has not yet been overcome. They are more willing in Estonia to take up the correction of small houses than large buildings in which apartments would have to be laid out anew and where a portion of the components, sanitary engineering equipment and so on would have to be changed. Is that not why over the past five years the proportion of the comprehensive method, the most progressive and efficient maintenance method of renovating housing, has decreased by nearly nine percent in the ministry and why it comprised less than a third of the total last year?

Expansion of the major repairs front is being delayed by the shortage of maneuvering housing in which to relocate residents of buildings for which comprehensive work is planned. They decided to create such housing in Estonia back in 1966, but notable success has not yet been achieved. We have had to return to this problem several times. Last summer, they determined exactly how much maneuvering housing to have for whom by the end of 1980. However, there is a chance the goal outlined will not be reached. Some local Soviets of People's Deputies allocate for those being temporarily relocated premises lacking minimal conveniences and ones to which people do not want to move. In Tallin, for example, the gorispolkom thinks it has 8,800 square meters of such housing available. Actually, however, specialists think only slightly more than 5,000 square meters is suitable for housing. And in Narva, upwards of half the maneuvering housing cannot be used.

One very important circumstance emerges quite clearly through all this: major housing repairs are yet to be organized in the best manner. The fact that local soviets and republic organs have engaged in this work insufficiently persistently has played a definite role. Confirmation of this fact is the failure of Estonia as a whole to meet the six-months assignment for such repairs. This happened, in particular, because various industrial enterprises and organizations holding about 36 percent of the republic housing are little concerned about its upkeep.

Much would change for the better were workers of the Council of Ministers, the Gosplan and other republic organs to probe more deeply into the needs of the branch. Unfortunately, this is not always done. Therefore, inadequately competent decisions are sometimes made, which naturally does not help things.

Early in 1977, the Presidium of the republic Council of Ministers discussed the question of creating a Tallin City Construction Maintenance Trust. On the basis of experience in RSFSR and Lithuanian cities, it was proposed that the rayon construction maintenance administrations be converted to a new type of enterprise. However, the comrades then doubted the appropriateness of such a step -- wouldn't it tread on the rights of the local soviets? Their fears were for naught, as the trust would in fact be subordinated to the city ispolkom. Still, although they were included in the trust, the construction maintenance administrations remained subordinate to the rayispolkom. The ambiguity of the situation which developed brought nothing but harm. Rayon leaders often use the RSU's [construction-maintenance administrations] for petty local interests, without concern for city-wide interest. Last summer, for example, on instructions from Morskiy Rayon party committee secretary N. Nechayev, a brigade of craftsmen from one important project was transferred to repair the roof of the raykom building. There are quite a few similar examples.

The organic unification of repair subdivisions in the city without which it is impossible to maneuver forces, specialize RSU's and strengthen the material-technical base has not been obtained in practice. And now, after two years have passed, everyone understands this. However, the Council of Ministers has not decided to correct its mistake.

Another example. The Estonkommunteploenergo was created on a base of directorates of local soviet combined boiler and heating networks to set up the proper technical and organizational administration of the heating economy by the Estonian Council of Ministers. The new enterprise was not able, as was planned, to begin work in January of this year, due to a lack of personnel. In order to reinforce its staff, nearly half those very combined directorates had to be used. Ten months passed before the erroneousness of the step taken was proven. Only after this was the staff of the Estonkommunteploenergo manned other than at the expense of other services of this branch.

It is alarming that the lessons from such blunders are being learned so slowly. Various republic departments are now discussing a program for developing the material-technical base of housing construction-maintenance organizations for the years just ahead. Its "breaking-in" period has been one of incessant "breakdowns." The Gossnab, for example, proposed that no mention be made of providing the branch with additional technology and equipment -- hoisting cranes, tractors, cement trucks, compressors. The Gosplan demands the removal of the section on allocating material-technical resources by the entire amount of allocations directed into repairing sociocultural facilities. Even the effort to provide sanitary-engineering work with sufficient acetylene and oxygen cylinders was assessed by posing the question prematurely. If such stipulations and corrections remain in force, the program will be born in a very abbreviated form and will bring little practical benefit.

Knowing that workers of a number of republic organs think the needs of housing and municipal services are somehow of secondary importance, certain organizations of union subordination do not want to help this branch at all. Large heating mains have been installed in Estonian industrial centers in recent years. Some of them, a total length of 114 km, still do not have managers. It has been proposed that the manager by the Estonglavenergo of the Ministry of Power and Electrification, which would ensure the reliable operation of these mains. However, E. Amav, leader of this main administration, flatly refused, with the approval of ministry workers -- it is not our concern, they said. But at the same time, in Lithuania, as was officially reported by that republic's Deputy Minister for Municipal Services, Z. Norkus, "all networks from heat sources have long been operated by Ministry of Power and Electrification enterprises. They manage both the mains and also apartment heating lines up to the point at which they enter the building, central heating centers, and also heating lines passing through technical corridors in buildings." Why, then, do power engineers completely reject in Estonia what they consider normal in Lithuania?

Finally, the problem of material-technical supply for operating and maintaining housing. It continues to be critical. The branches allocate fewer resources than are necessary according to the normatives for carrying out the plans. But even these very modest orders are not fully "filled as pledged." Construction-maintenance enterprises of the Ministry of Housing and Municipal Services received only 72 percent of the cement allocated them for the first eight months of this year. During that same period, they received slightly more than two-thirds of the lumber, half the logs and less than three quarters of the reinforced concrete items ordered. And the latter arrived intermittently, so work at the construction sites stood still.

It is thought that these problems will become less critical from 1980 on. The USSR Gosplan will direct funds and resources into housing and municipal services on a target basis. However, this step will bear the desired fruits only when the funds allocated reach branch enterprises intact. And that is a task not only for republic supply organs, but also and primarily for the USSR Gossnab.

...When we look once more at No 30 Graniydi Ulitsa, we find the carpenters have once more gathered up their tools -- sent again to a new project. No lumber here, it turns out. One worker laughs: "When major repairs begin, order ends." He is exaggerating, of course, although there is some truth in what he says. Actually, notable improvement in organizing this important work has not been achieved yet in the republic. And it is the fault of the Ministry of Housing and Municipal Services, although it shares the responsibility for this, in our view, with the Estonian SSR Council of Ministers, Gosplan and Gossnab, who do not always render this branch sufficient help.

11052
CSO: 1821

CONSTRUCTION

ESTONIAN ARCHITECTS HOLD 12TH CONGRESS

Moscow SOVETSKAYA ESTONIYA in Russian 8 Dec 79 pp 1, 3

[Text] Construction has reached unprecedented scope in our country. Dozens of new cities and villages appear on the map each year and hundreds of industrial enterprises and agricultural complexes are put up. An important role in this great creative work belongs to architects. The comfort of millions of new residents and the beauty, practicality and economy of operation of the new projects depend on their talent and skill. Our republic is one example of he creative approach architects bring to their work.

Architects of Estonia met on 6 December at the 12th Congress of their creative Union to sum up what has been done and discuss tasks still unresolved.

The prelude to this discussion was a large architecture exhibit which opened the day the congress began its work in the Tallin House of Artists. Blueprints, sketches, models and photographs of more than two hundred of the latest works of those who are determining today's and tomorrow's appearance of our cities and villages were shown here. In familiarizing themselves with the exhibits, visitors take a sort of trip through the entire republic and look into its immediate future. The concentration on tomorrow and consideration of long-range needs -- these are distinguishing features of the best plans.

In carrying out the resolutions of the 25th CPSU Congress, architects of the 10 republic planning organizations have created plans which meet the needs and interests of the main customer of construction, the Soviet people. His colleagues consider Estkolkhozproyekt architect T. Reyn's 500-apartment building put up in Pyarnu a major success; it also has a kindergarten and day nursery, a store, personal services shops, a restaurant, a sports hall and a swimming pool under the same roof.

In a majority of the plans exhibited one can trace a successful combining of architectural shapes with the surrounding landscape, an attitude of nature conservation. Rural architects announce themselves confidently. The creative search of designers from the fishing sovkhoz imeni S. M. Kirov, for example, is interesting. Their village of Khaabneeme was awarded an honorary diploma in a unionwide review. The architects managed to overcome the impressions of the sometimes unjustified so-called free lay-out of subdivided houses after the example of urban development. Architects here are seeking out ways of changing over to the large-scale use of single-family houses, which is especially urgent in connection with the increased interest in keeping livestock on subsidiary plots.

The development of general plans for Tartu, Tykhvi, Akhtme, Vil'yandi, sillamyae, Vyarska, Pyarnu, Tyuri, Payde and Vyru occupied an important place in the period between congresses. Plans were drawn up for recreation zones in Kassari, Khiyumaa, Suurupi, Klooga, Vyzu, Otepya and elsewhere.

M. Port, chairman of the union board, noted in the accountability report to the congress that the present scope of construction and restoration in the republic is making increasing demands on architects and setting them new problems.

This year, the volume of capital investments in the republic has reached 780 million rubles. For greater clarity, that is comparable to the construction, from start to finish, of six giant "Olimpiya" hotels in one year. In the year now drawing to a close, builders have been oriented towards putting up a complex mineral fertilizers plant in Kokhtla-Yarva, the Iru TETs, house-building combines in Tartu and Tallin, building complexes on a number of kolkhozes and sovkhozes, a carbamide concentrates shop in Tamsalu, a splint-slab shop in Pyussi, a new safety-belt production shop at the Norma Association, hospital complexes in Tartu, Tallin and Vyru, telephone stations and dozens of other important projects. It is evident from this list that opportunities for creativity have been opened up for Estonian architects in the most diverse fields of practical construction.

Architects and builders have resolved complex tasks in meeting more than 50 Olympics orders. It was necessary here to anticipate not only the conditions for holding a model Olympics sailing regatta, but also conditions for using Olympics facilities efficiently in the future. Much of whas was done for the Olympiad has already been checked by specialists and been evaluated highly. We can state with confidence that architects have coped honorably with this responsible work.

Given such scope of new construction, ties between architects and specialists in dozens of other occupations have increased in complexity. Today, good architecture depends equally on harmonious work by architect and customer, builder and building materials manufacturer. It sometimes takes a long time to draw up plan assignments and estimates and to choose a construction site. During the planning process, all the parameters except one change, the exception being scheduled completion. It is at that very point that many architectural miscalculations begin.

In the discussion which developed at the congress, the opinion was convincingly expressed that the industrialization of construction methods need not fetter architects' creative imagination. There are many ways of solving this problem, and architects must find them, but not at the expense of construction economy and tempo. This applies first of all to large-scale housing construction. Year after year, the Tallin house-building combine has achieved good indicators. It follows that, by using these achievements, in cooperation with architects, improvement is being achieved in the product and in the diversity of construction components. We must obviously turn here to the experience of neighboring union republics and introduce the developments of scientists more extensively.

Republic architects have paid a great deal of attention to restoration problems. Much has already been done in this area, but even more remains to be done. It is gratifying that new principles of restoration have been formed during the course of this work. Architectural monuments not only take on their initial appearance, but are also given new functional meaning. Extensive use is made of the experience of restoration experts of other fraternal republics and socialist countries.

Definite successes have been achieved in developing the interiors of public buildings, both as regards the integrity of planning resolutions and in terms of the quality of finishing work. The design and manufacture of furniture have been improved and modern new materials have been introduced.

Trade and public catering enterprises are being shaped and equipped with the participation of architects, technologists and artists through the use of advertising. Most noteworthy are the interiors of the Estonian SSR Gosplan Computer Center, buildings at the fishing kolkhoz imeni S. M. Kirov on Pyarnuskiy Highway, the main building on Linda Kolkhoz in Vyruskiy Rayon, and buildings of a number of interkolkhoz construction organizations.

Architects are doing important work to plan the transport bypasses of the main highways of republic cities. Final plans are often compiled here on the basis of competitive plans.

Much attention was paid at the congress to the training of young specialists. Those speaking at the congress noted the effectiveness of participation by creative young people in unionwide reviews of diploma projects of graduates of architecture departments. Students at the Estonian SSR State Art Institute award bonuses each year in such reviews, which testifies to the high level of architect training in our republic. Exhibits of work by young architects are accompanied by joint discussions between their tutors and builders. In order to raise the professional level of young architects, encounters with leading scientists and architects of the fraternal republics are organized regularly.

Creative young people participate actively in the contests which are organized. Thus, the winner of the contest to develop the Olympic Sailing Center in Pirita was a collective consisting of young architects. Young architects also won all the prizes in the contest to develop Viru Ulitsa in central Tallin.

At the same time, it was noted that, along with the achievements of Estonian architects, designers and builders, there are a number of omissions and unsolved problems. The level of large-scale construction in the republic sometimes fails to meet the growing demands, both as to architectural expressiveness and as to construction quality. Designers should find more expressive technological resolutions under flow-line industrial construction conditions. The existing products list of standard houses does not provide opportunities for creating individual appearances for individual cities and rural settlements of the republic or integrity of ensemble development. When developing lay-out plans, little attention is paid to seeking out progressive, original resolutions, to organically combining new construction with the development which has already evolved.

The level of landscaping planning, planning public amenities and small architectural shapes for large-scale development regions is low. The republic has not set up the proper training of appropriate specialists. Problems of overcoming limitation in the selection of finishing materials and further increasing the role of architects in urban-development policy await solution.

Speaking in the congress debates were T. Kallas, group leader at the Estonproyekt GPI [not further identified], P. Tarvas, prorector at the Estonian SSR State Art Institute, B. Saul, Deputy Chairman of the Estonian SSR Council of Ministers, V. Yegerev and V. Belousov, board secretaries of the USSR Union of Architects, T. Kal'yundi, senior architect for the Tallin Branch of the Tsentrosoyuzproyekt Planning Institute, and others.

In the resolution adopted, the congress expressed its confidence that the architects of Soviet Estonia would make a creative contribution to actualizing the party's plans and the assignments of the 10th Five-Year Plan.

A new membership was elected for the board of the Estonian SSR Union of Architects and the revision commission.

A letter addressed to the Estonian Communist Party Central Committee and the Estonian SSR Council of Ministers was adopted.

A plenary session of the Estonian SSR Union of Architects board was held. V. Kherkel' was elected chairman of the union board.

11052
CSO: 1821

LITHUANIAN CONSTRUCTION QUALITY NORMATIVES

Moscow STROITEL'NAYA GAZETA in Russian 18 Nov 79 p 3

[Article by L. Skardinskas, technical department chief in the Orgtekhstroy Trust, Lithuanian SSR Ministry of Construction, and R. Bukov, chief project engineer and chief of the standardization sector: "Prestige of the Normative"]

[Text] Where possible, in order to improve the quality of components, items, tools and fittings and to combat defects, fuller use must be made of normative documents. Unfortunately, that is not always possible.

The specialists of our ministry and of the Orgtekhstroy [not further identified] have begun bringing order to documentation, with the development of inadequate departmental specifications and the reviewing of obsolete ones. Based on departmental standardization plans, more than 100 normative documents were developed during 1976-1978, including specifications for building materials and components, new means of mechanization and norm-sets of items. Departmental construction norms have been introduced for using new materials and technologies. They now number 250. Thus, by the end of the 10th Five-Year Plan the bulk of the series-produced output of Lithuanian Ministry of Construction enterprises will be released in accordance with normatives. We will soon begin developing them for newly mastered types of output and means of mechanization. We are counting on thus raising the technical level of production.

A problem arises when setting output quality criteria: how to certify it if there are no unified indicators for evaluating it in this way, although the USSR Gosstroy has approved special methods instructions and has obligated the union ministries and departments to work out branch methods. But there are none now. Even in the unified methods obtained by us from the USSR Ministry of Construction of Heavy Industry Enterprises, the column of base indicators for highest quality category has only dashes.

Where, if not in the All-Union State Standards, would such indicators be? But you can literally count the items -- several roofing panels, wooden windows and doors,-- for which there is a delimitation, although not a very precise one, of indicators in terms of quality category.

Given state registration of specifications, Gosstandart [State Committee for Standards] organs are required to submit a chart of the technical level and quality of the product. But the planning organization -- the item's author -- develops no such charts. And who, other than the author, can best inform us as to the technical level of an item being designed? Production workers therefore have a formal attitude towards the Gosstandart requirement. They provide only a chart of quality level in which actual quality indicators are compared with specifications indicators or All-Union State Standards. Such a chart naturally does not reflect the technical level of the item.

It seems appropriate to us that planning organizations simultaneously prepare state standards for union-standard components (and first of all for industrial construction) when developing blueprints. It would also be useful were republic organizations to do the same. The complex of state standards for reinforced concrete 3x6-meter roofing slabs (All-Union State Standards 22701.0-77...22701.5-77) is a good start.

The system of planning the introduction of state standards also requires improvement. Concrete previously drawn up organizational-technical measures would seem to be the proper basis at all levels of planning. But often a plan includes standards which do not correspond to the activity profile of an organization in terms of the output being produced.

The above can be supported by many examples. Thus, the planned introduction by the USSR Ministry of Construction in 1977-1979 of All-Union State Standard 948-76, "Reinforced Concrete Crosspieces for Housing and Public Buildings," and All-Union State Standard 9561-76, "Multicavity Reinforced Concrete Panels for Building Roofs," turned out to be impossible due to a lack of conformity of item type-size to the type-sizes indicated in the All-Union State Standards. Use of these standards must begin practically with the development of technical documentation by planning organizations. However, assignments for introducing them are given only to manufacturers. State normatives are initial material in the development of technical documentation and must therefore be introduced in planning organizations, not in construction organizations or at industrial enterprises. It follows from this that planning the introduction of standards must be improved and in so doing, the conditions necessary to increase the efficiency of construction production and work quality will be created.

The next stage is to communicate quality indicators to the immediate executors. Our Orgtekhstroy has created and introduced a unified system of information about normative documents. Instead of dozens of sources, we have created three: a standards magazine, a republic library collector and the Orgtekhstroy trust. Two types of scientific-technical documentation resources have been created: central, in the Orgtekhstroy, and specific or specialized, in the construction organizations and enterprises.

The central fund is built up by Orgtekhstroy technical department subdivisions. Its staff includes a group leader, library head and two engineers. The fund now numbers 50,000 documents for all categories of construction and related branches, standard technological flow-charts and labor process charts, and standard plans and blueprints for components, parts and means of mechanization.

As the documents lose their force, the fund service readies proposals on reviewing them or refining them, these proposals then being communicated to specialists and recorded on special card indexes.

Our system has actually solved the problem of providing day-to-day information on normative documents. Dislocations occur only due to delay in the publication and distribution of the normative documents themselves, including All-Union State Standards, which appear considerably after they have gone into force.

11052
CSO: 1821

EXCHANGE ON MEASURING CAPACITY OF CONSTRUCTION CONTRACTORS

Ipatov's Proposal

Moscow STROITEL'NAYA GAZETA in Russian 13 Jan 80 p 2

[Proposal by I. Ipatov, chief of the laboratory for economic analysis of the combine Zhdanovstroy, Zhdanov, and comments solicited by the editors from P. Voshchanov, head of the sector for production capacities and fixed capital of NIIES [Scientific Research Institute of Construction Economics] of USSR Gosstroy]

[Text] Recently I happened to hear a curious variant of the well-known expression: "Tell me what sort of plan they assigned you, and I will tell you who you are." The topic was how the plan of contract work for the coming year is compiled. This is a key question for contractors, since the life of the collective depends on the nature of the program.

Yet if we look at the matter from the standpoint of common sense, there ought not to be any problem. As a matter of fact, it doesn't enter anyone's head to raise the plan of a plant or mine by half if they do not have new production capacities. But what seems absurd in the industrial sector happens rather often in the construction industry.

For example, some time ago the plan assigned to our combine Zhdanovstroy was increased from 91 to 118 million rubles, that is, almost 30 percent. As one might have expected, it was not fulfilled. Then came a sharp reduction--to 86 million rubles, and then another sudden increase by 70 percent! The combine was, of course, unable to take that jump in its stride.

To the best of my knowledge similar planning ups and downs have also occurred in recent years in the combine Donetsktyazhstroy, the trust Donkoksokhimstroy and many other construction organizations in the Donbass. Experience shows that the natural increase in the volume of operations with no increase in the capacities of the construction organization does not exceed 5-7 percent per year. Nevertheless, the program of the combine Zhdanovstroy for the current year was raised 20 percent.

There are many reasons to explain this subjective approach to the planning of contract work, but the main one is that construction organizations, unlike industrial enterprises, do not have a sound indicator of capacity. For example, what volume of operations is optimum for that same combine Zhdanovstroy--90, 110 or 130 million rubles? No one can give a precise answer. But exactly why is this? Isn't a construction organization the same kind of enterprise as any plant or factory?

Yet it is not such a problem to straighten out the planning of contract work and to put it on a scientific basis. What is needed is for construction organizations to have a passport concerning their capacity. This opinion is shared by almost all specialists I have had occasion to talk to on this subject. What would this document look like? It should indicate what the particular construction organization has available to it: the number of workers, machines, transportation, capacity of its shop facilities and other data from which one can determine the volume of operations it is capable of.

This is not a new idea, passports on capacity have been talked about for a long time now. The decree of the CPSU Central Committee and the USSR Council of Ministers on improvement of the system for management of the economy makes them compulsory. But if the effort is going smoothly in the industrial sector, this instruction is slow to be carried out in the construction industry.

Voshchanov's Comment

Moscow STROITEL'NAYA GAZETA in Russian 13 Jan 80 p 2

[Interview Conducted by V. Zhudov]

[Text] Question: What is your opinion of the points in the proposal?

Answer: As a matter of fact, cases are not uncommon in which certain construction organizations are assigned targets for the volume of operations and the activation of projects which are clearly too high. This disrupts the regularity in the construction process, and dates for delivery of capacities for operation are not met. Collectives which have not fulfilled the plan which, let us say, was too high are put among the stragglers. At the same time the production capacities of other contractors are manifestly underestimated by the planners. Both things cause sizable material damage to the national economy.

Question: What is the reason for this arbitrary approach to planning?

Answer: Even quite recently the development of the country's productive forces and the development of production capacities of construction organizations were looked upon to some extent separate from one another. Now after publication of the decree of the CPSU Central Committee and USSR Council of Ministers entitled "On Improving Planning and Increasing the Impact of Economic Instruments on Production Efficiency and the Quality of Performance" the approach has changed fundamentally. The volume of capital investments and of construction and installation work is to be assigned so as to take into account the capacities of construction and installation organizations.

But a great amount of preparation is required to implement this principle. In particular, we need a scientifically sound method of determining the production capacities of contractors. In this connection I would like to call attention to one passage in the letter to the editors: "Yet it is not such a problem to straighten out the planning of contract work and to put it on a scientific basis." It would be hard to confer in this opinion.

For example, the premise is that the annual volume of operations an organization has actually performed should be taken as its production capacity. But the actual capabilities of contractors cannot be fully discovered if this approach is taken. Some authors recommend stressing planned productivity and the annual operating schedule of machines and equipment used. But this method is good for narrowly specialized enterprises, for example, subdivisions for mechanization.

Some economists have recommended that the capacity of construction organizations be evaluated on the basis of the value of the active part of fixed productive capital and maximum possible (or planned) output-capital ratio. This method is applicable in the stage of consolidated planning computations. But it is still an open question: How to find the optimum level of this indicator?

A great deal can be said about the methods of determining production capacities of construction organizations which have been proposed in the various methods. Unfortunately, they all have inherent defects of one sort or another. The specific principles they contain are debatable or even contradictory. And this is not surprising: after all, many of them have not been tested under the actual conditions of construction work.

Question: How do you explain this failure of economic science?

Answer: I think the reason is that the problem has been studied by various research and project planning organizations without the requisite coordination. Nor has there been broad discussion of this complicated problem. It is also my impression that few people have been interested in solving it. There is a certain discrepancy between the interests of construction organizations and those of planning agencies: the former need a method that brings capacity closer to the actual volume of work they can perform, while the latter are oriented in the opposite direction.

Question: But how much progress has been made in solving the problem by NIIES, which is so to speak the authority in the field of construction economics?

Answer: We began to develop a method 15 years ago. In 1967 the recommendations were ready. They have been used in computations of the production capacities of construction organizations of Glavmosstroy [Main Administration of Housing and Public Works Construction of the Moscow City Soviet], Glavmospromstroy [Main Administration of Industrial Construction of the Moscow City Soviet] and Glavmosinzhstroy [Main Administration of Construction of Utility Installations]. The managers of subdivisions in which these recommendations were tested considered them among the most successful, but at the same time noted that they still need improvement.

For the last several years we have not been concerned with this problem at all. But in early 1979 we resumed work on orders from Gosstroy. At the present time we are working jointly with the Scientific Research Institute for the Construction Industry of Ukrainian Gosstroy in preparing a set of normative indicators of the specific amount of capital for purposes of determining the capacities of construction organizations. And normative indicators of specific capital investments for development of production capacities, which have been worked out with the help of 23 institutes, are now in the approval stage.

A specific date has been set for completion of development work on the method: the end of 1980. We are preparing it on the basis of the two sets of normative indicators already mentioned. We are endeavoring to use everything that is sound and inherent in the methods already available.

7045
CSO: 1821

CONSTRUCTION

CASE OF WORK TEAM RESIGNATION RECOUNTED

Moscow STROITEL'NAYA GAZETA in Russian 19 Dec 79 p 4

[Article by N. Fomina, special correspondent, Zhukovskiy: "They Are Fleeing You, Comrade Zaretskiy"]

[Text] This is a case that immediately attracts attention: 12 people giving notice. The resignation of a team. On the same day. In the same SMU [construction and installation administration]. Why would people decide on such a step?

And it all began when a man came into the offices of the newspaper. Upset, wounded, touched to the quick:

"You see, because I told the truth, they immediately made formal accusation that I had done bad work. But I have worked for many years without a single reproach! Please look into it.... The entire team appeals to you. You can't treat people that way!"

I went to SMU-6 of the trust Mosoblstroy [Moskovskaya Oblast Construction Trust] No 26.

"Ah, I see, Kostya Pirumov complained!" I was told by the postroykom [construction project trade union committee] chairman T. Shvetsova, also chief of the personnel division. "Well, he is a good-for-nothing, his work has been poor."

"Let the section chief Sapronov tell about this, he'll be here in a moment," Shvetsova's deputy Lyamin said to back her up.

Sapronov did come, and he gave an example to the effect that Pirumov had dumped some concrete that had been delivered, without spreading it.

Then I went to the construction team. The lads spoke warmly and sincerely. I noted down their expressions, which were in a way like remarks justifying their resignations. So....

Explanation of Fitter N. Akishev

So, the incident with the concrete? Yes, it did happen. They finally delivered the concrete, but by that time there was no one in the section, the chief had sent everyone somewhere else. He was "synchronizing," as they say. Then he assigned an arc welder Kostya Pirumov to do the unloading. Just imagine what it means to spread 3.5 cubic meters of concrete all alone. With a shovel. You know, no amount of skill can help, Il'ya Muromets himself could not have done it in a week.

That kind of bad coordination is not uncommon in our SMU. Some of those organizing the work haven't very good memories. Not long ago the chief engineer came by; I didn't recognize him, it had been so long. And what he said was: "Ah, it turns out you have it; the crane is standing here on the site, and this is the second week I have been looking for it." I had the idea that the chief engineer was someone who could tell you where everything was if you woke him in his sleep. Especially since we haven't much in the way of equipment. We are always working under hazardous conditions: has anyone ever set up columns with ropes before? Before long we'll be pulling nails with our teeth.

Explanation of Fitter V. Babarykin

But what's equipment! A luxury! We can't even get the most necessary things. We came to this construction project where we are now talking with you, and there were no facilities set up for us. We went to see people, we reminded them, we filed reports, we implored, and we felt the cold and the pain.

Finally they set up an employee facility. But only after the city party committee intervened. Or take special work clothing. We are pitiful to look at, aren't we? Rags. And I am a fitter, any moment the crane can grab me by those tatters, there is nothing you can do--the clothes are worn out....

Explanation of Carpenter V. Bagayev

And gloves? I went to the chief's office, to that same Sapronov. I said: this asphalt is 120°, you can't handle it in your bare hands. But if it takes the city party committee to get the employee facility, I suppose you have to write to the Red Cross to get gloves? What they told me was: "It's all right, you'll manage, you won't melt. Where is your moral fiber? You'll be wanting someone to wipe your nose."

Explanation of Section Foreman M. Platonova

We have not been fulfilling the plan. That means there is nothing to pay the men. We do not receive money for work that has not been done. I remember that when I first made up the list of work items and counted everything up in the prescribed way, the way they taught us in the institute, they laughed at me in the office: "But the money has been spent for those operations long ago." We had barely begun the building, but according to the wage record we had already delivered it. Buildings appear and disappear in the twinkling of an eye. It's nothing less than hocus-pocus. It's not an SMU, but the Bermuda Triangle.

Explanation of Arc Welder K. Pirumov

Probably we will not be able to think of a single thing that has been settled in a decent way in our SMU. Neither business nor personal affairs. I was so reckless as to state my demands to the postroykom: I have been working here, I said, 6 years now, but my turn never comes for housing. In that time three of the five chairmen of the postroykom have received apartments. Even Lyamin. In 1 year he received a one-room apartment. They say he is a needed specialist, but am I unnecessary?

The people in the postroykom told me that some of our people have been waiting longer, but they do nothing--they keep quiet and do not complain. But I am going to complain! I have a sick child, what sort of family life can there be living so many years in a dormitory?

Then the very next day I was summoned by Shvetsova, chairman of the postroykom, who handed me the report of the section chief concerning my alleged shirking. I immediately brought up the time sheets and invoices, I demanded an apology, and they presented it to me in the form of a paper. Here it is: "17 September 1979 in the presence of V. A. Zaretskiy, chief of SMU-6, M. I. Sapronov, deputy secretary of the party bureau and section chief, T. D. Shvetsova, postroykom chairman, and V. M. Lyamin, deputy chairman of the postroykom, a reproach was officially made against the worker K. N. Pirumov in his presence." But how could I have been present, when I was sick in bed? "Did you see me there?" I asked Shvetsova. She shrugged her shoulders. Soon after that they summoned me to an expanded meeting of the postroykom. And there in the presence of many people, who were seeing me for the first time, she pulled from a folder the little paper that had yellowed (it dates from a time way back when I had a fight with the wife, and she bitterly complained about me to the postroykom), and she read it. The point she wanted to make was that we had no need for an apartment.

Explanation of Fitter V. Plishkin

I am carried away. To me it seems masterful, somewhere near administrative genius! But in general the typical and consistent administrative handwriting of our SMU. You know what Zaretskiy did when all of us, 12 angry men, appeared in the SMU office with our notices in our hands? He issued an order to his secretary: "Don't take the notices and don't record them!" And he himself retired by another exit.

But the matter did not end there. What they did was to break up our team.

Explanation of Team Leader A. Chugunov

No, you be the judge.... I had a team that was knitted together and worth its weight in gold. Without boasting I will say that we did 50,000 rubles of work on the factory! In just the short month of February! When anything had to be done, we all worked like dependable horses. (This incidentally was in answer to the question about how Kostya worked.) And I assumed that hereafter they would be sending us to the crucial places, on the difficult assignments. But instead of that.... The people in the postroykom summed up the results of the competition: "What can be said about Chugunov's team? Nothing. After all, their work can't be counted, they are scattered over several sections." And that annoyed me, it made my heart ache: "This is unfair!" I said. No one raised an eyebrow. So no one asked my opinion about Kostya's work. Even though I am a member of the postroykom, they also did without me in such crucial meetings as when, say, they passed a decision to award Lyamin an apartment.

In short, everything that each of us has said here and now is the reason why we don't want to work here.

I went back to the office with a gloomy feeling. Soon they reported to me that they had offered Pirumov an apartment out of turn, but it was located in an area so far from Zhukovskiy that he would be forced to give up working here. They broke up the team which "rocked the boat," and they got rid of the man who "interfered."... And I decided to write my notice.

Notice to Yu. Kiryushkin, Manager of the Trust Mosoblstroy-26, From a Correspondent of STROITEL'NAYA GAZETA

I call upon you to take steps in view of the facts presented above. In examining how the team was working, we ascertained that the management of SMU-6 is working poorly. The poor work of the supervisors inevitably gives rise to conflicts. And when they do not resolve these conflicts, but resort to deceptions of various kinds (the team demands that the job be properly organized, so they disband it; a man demands that apartments be handled fairly--and they begin to abuse him), so that things become more and more entangled.

As I was told in the main administration, personnel turnover in your trust has risen this year. Probably the state of affairs in SMU-6 has had some impact on those statistics. So it is important and indispensable to the trust as a whole to examine and correct the relations between the management and workers in SMU-6.

7045
CSO: 1821

READERS, OTHERS COMMENT ON INNOVATION

Recommendations of USSR Gosstroy

Moscow STROITEL'NAYA GAZETA in Russian 26 Dec 79 p 3

> [Text] The fifth issue of "Innovation Service" (STROITEL'NAYA GAZETA, No 61, 23 May 79) has reported that at the beginning of the year USSR Gosstroy drafted recommendations for increasing the scale of application of new technology envisaged in the assignments of the state plan and recommendations to ministries and departments on utilizing the results of scientific research in construction. These recommendations have been repeatedly published in "Innovation Service." What is the result?

"Our recommendations," says A. Bizyayev, division chief of Glavstroynauka [Main Administration of Gosstroy for Scientific Research Work and Introduction of New Technology], "have furnished specific reference points for construction and certain industrial ministries. For example, the USSR Ministry of Industrial Construction planned to produce 130,000 instead of 114,000 cubic meters of reinforced-concrete fabrications using impact technology. All of 109,000 were produced in 9 months. The volume of construction and installation done on the basis of subcontracting by construction teams has increased by more than 2 billion rubles. Here we might note the USSR Ministry of Heavy and Transport Machinebuilding, Ministry of Construction, Ministry of Rural Construction and Ministry of Transport Construction.

Unfortunately, certain ministries have not been able to take on higher assignments, and moreover proved unable to meet even some of the items in the planned assignments. We cannot forget that not everything depends on the construction ministries--much is in the hands of the industrial sector. For instance, a majority of the ministries turned out not to be prepared (because of the shortage of presses) for the production and use of stamped foundation fittings.

The problem of introducing both lightweight and also high-grade concrete is also very acute. Nor is the situation better with the use of shop-fabricated wallboard partitions: the USSR Ministry of Construction Materials has not been able to put into operation the capacities of plants for wallboard manufacture.

On the whole we can say that the work done has not resulted in an appreciable contribution to faster technical progress. The appropriate conclusions have been drawn from this. They were reflected in the plan for new technology for 1980.

New Technology: Practical Application

Moscow STROITEL'NAYA GAZETA in Russian 26 Dec 79 p 3

[Article by K. Ratkevich, deputy chief engineer of the association Gomel'promstroy, candidate of engineering sciences, Gomel']

> [Text] In the third issue of "Innovation Service" (STROITEL'NAYA GAZETA, No 36, 25 Mar 79) we told about the interesting experiment in organizing the application of new technology in the association Gomel'promstroy. The annual benefit from application of scientific-technical advances is all of 3 million rubles! But in the view of the article published below the benefit could have been far greater. The author's principal conclusions are these: faster application of the results of scientific developments presupposes further improvement of the system of planning, financing and incentives related to the production and application of new technology; the adverse effect of new technology and of the use of more progressive fabrications and products on the financial condition of construction and installation organizations must be eliminated; and there must be improvement in material and technical supply, the creation of new technology and the development of production processes.

Our neighbors are consuming between 5 and 7 cubic meters of concrete filling cylindrical drilled piles. Our improved piles with an expanded sheet metal shoe take no more than 1.5 cubic meters, and their load-bearing capacity is doubled. In short, the benefit, as they say, is there. But the economists have calmed down our enthusiasm: there is nothing to be happy about, there are now fewer cubic meters of concrete than by the old method, which means that the volume of work is smaller, and also the wage fund and profit. But we are working under the conditions of the Belorussian experiment, in which profit is one of the principal indicators. The upshot, then, is that profit is easier to get for an organization which spends more and achieves a worse result.

The volume of application of efficient innovations must, of course, be planned in other indicators which would make what is advantageous to builders advantageous to the entire economy.

Every time we receive the plan for new technology from our republic ministry we experience a feeling of annoyance for other reasons as well. So, we say, why plan the volume of introduction of fully prefabricated constructions for the construction industry? Success in this matter does not depend on us, but on the clients--on what they intend to build and how. Would it not be better to give this assignment to the project planning organizations?

There is more. Why include in the plan measures which have long since ceased to be innovative? For several years in succession now they have assigned us a target for application of cold asphalt-kuckersol mastics for roofing and waterproofing work. But we took care of this subject back 6 years ago! We are not in principle opposed to planning of an innovation that has already been applied, but only when a qualitatively new approach is opening up to solving an old problem. Three years from initial application, say, when the benefit may no longer be from the idea or innovation itself but as a result of improved mechanization and organization of the work.

We at the local level, of course, are entitled to contest these formal items in the plan. But it is no simple matter to defend oneself against them. The best way is to accept them without objection and plan for ourselves what we considered the most efficient. That is, in fact, how we go about it. It is sufficient to say that 56 out of the 92 measures contained in the plan for new technology are our own.

And now about what we would like to see in the plan. It calls for reimbursement of costs for materials, the experimental product, fuel, and so on, in short, for everything except expenditures for wages. We have organized a shop for new technology in order to introduce innovations more effectively. But in order to pay its workers, we had to list them as repair fitters. And here is a paradox: the more new machines and attachments we manufacture, the worse the financial condition of the association, since the wage fund and labor limit are not planned for those purposes.

We are happy to borrow "someone else's" innovations and improve them. The other way is to explore and solve fundamentally new scientific-practical development problems where there are no models to follow. It is very important, then, to collaborate with scientific research institutes and design offices. It must be said that scientists and specialists are happy to collaborate with us. They are attracted by the significant fact that we have our own shop for new technology, which is fairly well furnished with experimental production facilities.

But both we and our colleagues from the research and academic institutes are far from the idea that cooperation has been organized as it should be. At present cooperation is not covered by a multiannual plan, but is on an ad hoc basis, usually resulting from an initiative by the association. In short, there is neither moral nor material support from planning organizations. What trouble we have obtaining funds for materials and parts for the work of the shop for new technology!

So, there are still many unresolved problems, both organizational and economic, which are holding back the practical application of innovations. And in my view it is high time specialists and scientists concentrated their attention solving these problems.

Suggestion by Reader

Moscow STROITEL'NAYA GAZETA in Russian 26 Dec 79 p 3

[Article by O. Vol'skaya, Khar'kov]

> [Text] Readers' responses to the articles in the section "Innovation Service" regularly come in to the offices of the newspaper. Many of them contain requests addressed to the developers of innovations that they be more precise about how ready the innovations are for widespread application, requests concerning the possibility of obtaining technical plans and specifications, and so on. Ordinarily we answer these letters individually, or, when there are many requests, we do so through the newspaper. But in our view the most valuable letters are those which discuss improvement of the very system of practical application of scientific-technical achievements and improvement of the feature section "Innovation Service."

I think that in the coming year "Innovation Service" ought to seriously deal with the question: Why is it that the enthusiasts in one organization are able to complete the job of applying an innovation and achieve a sizable economic benefit, while in another organization this work barely progresses? After all, we all know the main directions of technical progress in capital construction. It seems as though responsibility for technical progress is a voluntary matter. But really the introduction of innovations should become compulsory for everyone.

Gosstroy Officials Speak

Moscow STROITEL'NAYA GAZETA in Russian 26 Dec 79 p 3

> [Text] The Commission for New Technology of the Scientific-Technical Society of the Construction Industry discussed at its regular meeting progress in fulfilling the principal assignments of scientific-technical programs

for the first 9 months of 1979 and the tasks of the engineering community in fulfilling programs for 1980 and also the main directions of the plan for application of scientific and technical advances by construction ministries in 1980. We publish below reports by responsible USSR Gosstroy officials A. Bizyayev and V. Grimaylo.

Results

According to data of the USSR Central Statistical Administration, application of a number of measures have gone faster this year than last. Progressive manufacturing processes such as conveyor assembly and large-block erection of roofs of industrial buildings (the growth rate of the volume was 12 percent in 9 months), impact technology in manufacturing reinforced-concrete fabrications and elements, which makes it possible to obtain products with higher quality (increase in the volume--45.5 percent), have undergone further development in the construction industry and building materials industry. There has been an increase in the volume of installation of shop-fabricated partitions in industrial buildings and an increase in the amount of ductless installation of heating systems. .

Certain measures included for the first time in the state plan have been carried out successfully. For instance, the assignment for manufacture of reinforced-concrete spanning slabs was overfulfilled by more than 100 percent, the plan for application of reinforced-concrete pressure pipe in construction was overfulfilled by 23 percent, and so on.

At the same time a number of ministries and departments have not been vigorous enough in their efforts to fulfill assignments, including assignments included in the plan for the first time. For instance, USSR Ministry of Power and Electrification, USSR Ministry of Industrial Construction, and USSR Ministry of Construction did not fulfill the assignments given them for the use of stamped connecting elements in the manufacture of reinforced-concrete fabrications, and as a result this assignment for the country as a whole was fulfilled at a level of only 21.2 percent. The USSR Ministry of Industrial Construction and USSR Ministry of Rural Construction did not achieve all the work assigned them for laying foundations on subsiding soils, for the use of improved-quality wallboard in fabricated partitions, which also resulted in underfulfillment of these assignments for the country as a whole. A majority of the ministries failed to meet the targets assigned them for the use of plastic pipe in construction.

Plans

The economic benefit from performance of the measures outlined in the plan of new technology for 1980 will be 782 million rubles, which is 17 percent more than the benefit under the 1979 plan.

The assignments for the specific products list, for the volume of application of new technology and the use of efficient materials, products and fabrications in construction also exceed last year's. The number of new industrial products to be put into production is increasing from 40 to 69, including new building materials, parts and fabrications--from 27 to 32, and new forms of building materials--from 13 to 26. Plans call for 41 products to be manufactured that were not envisaged in work programs for the 10th Five-Year Plan.

There are plans to build 56 experimental facilities for checking new space-layout, design and other features in industrial, power, transportation, agricultural and housing and public works construction aimed at reducing materials intensiveness and labor intensiveness of construction and at economizing on fuel and energy.

Performance of these measures will lower the production cost of construction and installation work by 750 million rubles and will bring about a saving of 80,000 tons of metal and 4.5 million tons of cement. Application of scientific-technical advances in construction will make it possible to save the labor of more than 70,000 persons and lower labor expenditures nearly 30 percent from 1979.

'Innovation Service'

Moscow STROITEL'NAYA GAZETA in Russian 26 Dec 79 p 3

[Text] In response to readers' requests and the results of an analysis of the material published during the year and also official reports of ministries and departments, the feature section "Innovation Service" will be revamped somewhat in 1980. We intend to discuss the most important problems of improving the system for application of scientific-technical advances. The materials of the discussion will be published under the following heads: "Organization of the Effort," "Planning. Management," "Financing. Incentives."

At the same time we will retain headings already familiar to readers such as "The Reader Poses the Problem," "We Answer Questions," "For the Innovator's Notebook," "Why Doesn't It Work?" "Our Arbitration Commission," "Invention No...," "Replies to Us," as well as the head "USSR Gosstroy Recommends."

We would like every production innovator, specialist and supervisor to see "Innovation Service" as a place where everyone can make the contribution he is capable of to improvement of the present system for utilization of scientific-technical advances, which means the solving of one of the most important problems set by the 25th party congress, that of speeding up scientific-technical progress in capital construction.

7045
CSO: 1821

CONSTRUCTION MACHINERY

SOVIET CONSTRUCTION MACHINE BUILDING REVIEWED IN FIVE-YEAR PLANS

Moscow STROITEL'NYYE I DOROZHNYYE MASHINY in Russian No 11, Nov 79 pp 2-5

[Article by Engineer V. A. Nikoforov, member of the Minstroydormash [Ministry of Road, Construction and Municipal Machine Building] Scientific and Technical Society: "Five-Year Plans as the Basis for Developing Construction and Road Machine Building in the USSR";passages enclosed in slantlines printed in boldface]

[Text] Half a century separates us from the adoption of the first five-year plan, which served at first as a scientific foundation for the pace and proportions of the USSR's social and economic progress.

The CPSU Central Committee decree, "The 50th Anniversary of the First Five-Year Plan for Developing the USSR's National Economy," notes that "The First Five-Year Plan became the forerunner of a remarkable pleiad of Soviet five-year plans that have raised our country from technical and economic backwardness to the pinnacles of economic, scientific, technical and social progress. Each of them has had its own character, reflecting the inimitable features of its time, and was a stage in the achievement of concrete socio-economic goals. But the continuity of the general task--on to socialism and communism by five-year plan stages--united and still unites them."

The history of development of the five-year plans is the history of the construction of developed socialism, of the creation of powerful productive forces, and of an authentic flowering of science and culture.

/The construction and road machine building branch did not exist as such during the First and Second five-year plans,/ there being in the country few manufacturing plants and equipment for construction, and the building-materials industry was spread out among various agencies. However, even under these conditions a number of plants were specialized in the output of construction and road machinery. Thus, in 1931 the Kovrov Excavator Plant and in 1933 Kostroma's Rabochiy Metallist plant began to produce single-bucket excavators, in 1933 the Dmitrovskiy Excavator Plant began to make multiple-bucket excavators and Kiev's Krasnyy Ekskavator plant began to produce trenching excavators, and in 1931 Odessa's Plant imeni Yanvarskoye Vosstaniye began to make railroad cranes.

A number of plants in Khar'kov, Nikopol', Vyksa, Korosten', Rybinsk, Kiev and Kremenchug produced construction hoists, various types of small rail cars, elevators, screw conveyors, and crushing, grinding and cement-mixing equipment, as well as various road machines.

/The First Five-Year Plan/ was carried out successfully by both the country's entire industry and the construction and road machine building plants.

/During the Second Five-Year Plan,/ in accordance with 17th VKP(b) [All-Union Communist Party (Bol'shevik)] decisions and the goals set by the national-economic plan, the Tashkent Excavator Plant, Moscow's Severyanin plant, the Slavyansk, Priluki and Moscow construction-machinery plants, the Nikolayev Road-Machinery Plant, the Uryupinsk Crane Plant imeni Lenin, Sverdlovsk's Strommashina plant, and other enterprises additionally were involved in producing construction and road machinery.

Production volume at the construction and road machine building plants increased continuously, worker manning grew, and new productive capacity was introduced. Thus the Nikopol' Construction-Machinery Plant gave the country 42 million rubles' worth of output during the five-year plan, production volume having more than doubled over the First Five-Year Plan's, and labor productivity increased by more than 236 percent. At Sverdlovsk's Strommashina plant, a machine shop and a forge, and, at the Ukhta Machinery Plant a boiler-welding and a foundry shop were put into operation, and Korosten's Oktyabr'skaya Kuznitsa road-machinery plant, the Kremenchug Construction-Machinery Plant, the Priluki Construction-Machinery Plant imeni 25th CPSU Congress, and other enterprises were rebuilt. Construction machine building was being concentrated in the Soyuzekskavatsiya and Soyuzstroymekhanizatsiya systems of trusts; and road machinebuilding plants were gradually being transferred to the jurisdiction of the Association for the Production of Road Machinery, which was established in 1937.

Much work was done to expand the products list of construction and road machinery. Thus, the Kovrov Excavator Plant created in 1934 the tracked, fully rotatable PPG-1.5 excavator and, in 1937, the LK-0.5 diesel general-purpose excavator; Kiev's Krasnyy Ekskavator plant mastered the production of multiple-bucket trenching excavators, gravel washers and vibratory feeders; the Tashkent Excavator Plant began to produce suction dredges; the products list of Odessa's Crane Plant imeni Yanvarskoye Vosstaniye, which operated successfully at structures of the Dneproges [Dneprovskaya Hydroelectric Power Station imeni V. I. Lenin] and the Kuzbass [Kuznetsk Coal Basin] construction projects and during the laying of new railroads, was expanded continuously; the Slavyansk Construction-Machinery Plant began to produce 1.5-3 ton hoists; the Moscow Construction-Machinery Plant converted to the output of two-drum frictional hoists, rotating cranes and mortar pumps; Khar'kov's Krasnyy Oktyabr' machine building plant mastered the production of presses for making red tile; and the Krasnyy Mayak plant at Yaroslavl' began to produce direct-drive saws, surface vibrators and deep vibrators.

Construction and road machine building plants successfully fulfilled the goals of the Second Five-Year Plan, as did industry as a whole. As a result of the Second Five-Year Plan, it was decided that the main task of the transitional period was to move our country to second place in the world in total volume of industrial output.

/The Third Five-Year Plan/ called for the comprehensive development of the country's main economic regions and, in connection therewith, a sharp increase in the amounts of industrial, public-building and housing construction, which required a great rise in the level of mechanization of construction operations. In accordance with these tasks, the output of construction and road machinery was further developed, new and more effective means for mechanizing construction were created, and the serial output thereof was arranged.

In 1939 the Severodvinsk Road-Machinery Plant, at which the repair of construction machinery and the output of spare parts therefor began, was built and put into operation. The Priluki Construction-Machinery Plant imeni 25th CPSU Congress, which made mortar and concrete mixers and rock crushers, undertook, with the startup of a new department in 1940, mastery of the production of tracked excavators with a bucket capacity of 0.35 cubic meter.

Capacity was built up at existing plants. Thus, production space at the Kremenchug Road-Machinery Plant was increased considerably; reconstruction began in 1938 at the Korosten' plant and in 1939 on the Moscow Construction-Machinery Plant imeni M. I. Kalinin, which, at the same time, was amalgamated with a small plant for construction-finishing machinery.

During the Third Five-Year Plan intense work continued on the creation and production mastery of new machinery. Thus, the Nikolayev Road-Machinery Plant imeni 50-Letiya Velikogo Oktyabr' had by 1941 developed and created test models of 32 machines (trench diggers, graders and towed scrapers, bulldozers, cranes and snow-clearing machines), of which 19 were adopted for series production. Kostroma's Rabochiy Metallist plant manufactured and sent to northern construction projects Europe's first walking excavator with a dragline bucket of 0.75 cubic meter capacity. The Leningrad Excavator Plant produced the DKA-0.25 pneumatic-tired excavator with a bucket capacity of 0.25 cubic meter.

By the start of the Great Patriotic War 25 plants in our country were producing construction and road machinery, continuously increasing production volume year by year. During the 1930-1941 period the output of construction and road machinery increased 14-fold. Thus the Kovrov Excavator Plant created and mastered the production and sent to construction organizations during the 10 prewar years 1,253 excavators of various modifications. The Dmitrov Excavator Plant produced several hundred trench-digging excavators based on the MK-1 type tracked chassis.

During the Great Patriotic War most of the plants that had been producing construction and road machinery were destroyed; the production of machinery was curtailed; and the plants located outside the zone of military operations were switched over to defense production. The postwar period was marked by a rapid pace of restoration of the national economy, which required the creation of an industrial base for construction work and the development of a construction-materials industry.

The party and the government adopted a number of important decisions that were of enormous importance for further development of the mechanization of construction. /Of special importance in development of the construction and road machinebuilding branch was the creation in February 1946 of the All-Union People's Commissariat for Construction and Road Machine Building/ (which later was renamed a ministry), to which 54 plants were transferred from various branches of machine building.

The postwar attention of the party and of government to the new industry, the concentration of enterprises under a single planning, operating and technical management, the creation of specialized scientific-research, design-development, design and manufacturing organizations, the restoration of destroyed plants, the reconstruction of existing plants, and the construction of new plants foreordained the required pace for rapid development of the industry.

/The first days of activity of the new Narkomat [People's Commissariat] (the Ministry of Construction and Road Machine Building) coincided with participation in development of the draft of the Fourth Five-Year Plan for developing the country's economy during 1946-1950.

During the first year of the Fourth Five-Year Plan, our industry was given the task, along with the restoration of the production of prewar models of machines, to undertake the creation of new machines that would enable more labor-intensive construction work to be mechanized. In 1946 the production of 53 construction and road machines of the basic products mix had been restored and the production of 37 new machines had been mastered. The amount of industrial production during the five-year plan, which was fulfilled ahead of schedule on 12 December 1949, grew five-fold. During this period labor productivity more than tripled, and manning by industrial-production personnel grew by 69 percent. Centralized capital investment for developing the industry increased each year, and in the last year, 1950, it had more than doubled over 1946.

/During the first 5 years of the independent existerce of the construction and road machine building industry/more than 400 specific new machines had been sent up for production. Large-series production had been organized for single-bucket excavators with buckets of 0.15-1 cubic meter capacity, multiple-bucket quarrying and trenching excavators, truck cranes with load-lifting capacity of up to 10 tons, and pillar jib cranes with load-lifting capabilities of 5, 15 and 25 tons. Concrete mixers of 1,200 and 2,400 liters' capacity appeared in the products list of the construction machinery produced. The concrete plants with these concrete mixers that had been assembled at the Volgodonsk Construction Trust enabled almost twice as much concrete to be placed in 12 months as had been placed during the whole period of construction of the Dneproges. During erection of the Tsimlyansk hydraulic-engineering complex, the placing of concrete by means of equipment delivered by construction and road machine building plants reached almost 10,000 cubic meters on some days, at that time a world record. The serial output of road rollers that weighed 2.5 to 15 tons, integrated equipment for mechanized asphalt-concrete plants, asphalt-concrete layers, motor graders, elevating graders and heavy towed graders was started.

For the building-materials industry, the output of presses for the shaping of clay brick, with a capacity of 600 to 5,000 bricks per hour, equipment for outfitting these presses, and installations for the manufacture of cinder blocks and for producing gypsum, slag wool and so on was started.

In 1947 the prewar level of output of construction and road machinery was achieved, the production of construction and road machinery was concentrated and specialized, and hundreds of new machines had been created, most of which yielded in no way to the best foreign models in technical level and effectiveness.

/The Fifth Five-Year Plan for Development of the National Economy/ (1951-1955) of the USSR called for further substantial development of the industry and an increase in the output of construction and road machines, as well as of equipment for the building-materials industry. The tasks of completing mechanization of basic construction operations and of providing for the conversion from mechanization of individual processes to the integrated mechanization of construction was set for the Fifth Five-Year Plan. A special task was the creation of powerful construction equipment for the largest of hydroelectric construction projects of that time: the Kuybyshevskaya, Volgogradskaya and Kakhovskaya GES's and the Turkmen, South Ukraine and North Crimea canals.

Later a task challenging in nature was set: to create machinery for the support of construction operations in regions where virgin lands and lands that had long lain fallow were to be mastered, and also for excavating frozen soils, and to master the output of these machines.

In order to fulfill the assigned tasks, the necessary steps for further developing the industry were taken. As a result thereof, production volume in 1955 had risen 2.5-fold over 1950's and, in comparison with 1946's, 12-fold; and centralized capital investment in developing the industry grew almost 2.5-fold in comparison with 1950's. During the five-year plan 382 new machines, including E-505 excavators with independent head, turboclutch and bucket of 0.5 cubic meter capacity; an excavator-crane with 2 cubic-meter bucket and a lifting capability of 50 tons; bulldozers based on KD-35, DT-54 and S-80 crawler tractors; motor graders of the medium and heavy types; and much other equipment were developed and delivered.

The independent direction of work to create machinery for construction in agriculture, particularly for the irrigation and land reclamation that was contemplated, should be particularly noted.

In the area of developing the output of equipment for the building-materials industry, aside from creating new machines for the brick and asbestos-shingle industries and for the production of gypsum, cinder block and reinforced-concrete products, work began on the creation of comprehensive domestic equipment for the cement industry.

As a result of supplying construction with new equipment, the level of integrated mechanization of earthmoving work rose to 81.5 percent, the preparation of concrete to 70.5 percent, work on the mining and treatment of gravel to 82 percent, and the loading and unloading of stone, crushed rock and sand to 70 percent; and the mechanization of construction reached 13-14 percent in 1955, versus 3-4 percent during the Fourth Five-Year Plan.

/During the Sixth Five-Year Plan/ (1956-1960), in accordance with 20th CPSU Congress directives, the plan for developing the USSR's national economy called for a doubling of the production capacity of plants in comparison with 1955, an approximate tripling of the output of excavators, a quadrupling of the output of motor graders, a quintupling of the output of equipment for producing reinforced-concrete articles, a 10-fold increase in the output of equipment for producing large wall and concrete blocks, and also an expansion of the production of mechanized construction tools and of highly productive integrated equipment for the cement industry.

Fulfillment of the established tasks required the substantial development of scientific research and of design-development work and an increase in the amounts of production and the equipping of production facilities with advanced technology and means for mechanizing labor.

The Volzhskiy plant for cement machinebuilding, Volgotsemmash, the construction of which was started in 1956, had by 1958-1959 set up the output of new types of grate bar coolers for cement clinker, rotating roasting kilns 4.5 meters in diameter and 170 meters long with a productivity of 50 tons of clinker per hour, and other equipment for making cement. The production of roasting kilns 4x150 meters in size was mastered at Bryansk's Strommashina plant (now an irrigation machinery plant).

Characteristic of the Sixth Five-Year Plan was the promotion of work to create equipment for the cement industry and to develop the production of a series of transporting and elevating equipment. The latter made our country a leader in the world in the production of tower cranes. The conversion from S-80 base tractors to the new S-100 base tractors of increased power, which have hydraulic drive for the toolbar equipment, was characteristic for road machine building.

/During the period 1961-1965/ the output volume of construction and road machine building plants increased by 80 percent, or 70-fold over 1946. At the same time, a lag occurred in mastering the production of new machines; thus, 295 new machines were created and sent up for production versus 343 in the Sixth Five-Year Plan and 382 during the Fifth Five-Year Plan.

In accordance with a decision to organize the management of industry under the branch-of-industry principle, /the Ministry of Construction, Road and Municipal Machine Building was created in November 1965./

/The Eighth Five-Year Plan/ (1966-1970) set major tasks for creating new equipment for construction, the building-materials industry and municipal services.

Experience confirmed the desirability of adoption of the decision to reorganize the management of industry. For the ministry as a whole, the Eighth Five-Year Plan was carried out ahead of time--for total output volume on 10 December 1970, and for new equipment in 3.5 years; and 911 new machines were created and put into series production. Industrial production volume rose 1.7-fold, labor productivity increased 1.5-fold, and profit almost tripled. Construction was completed on 6 new plants, which were put into operation. Fixed production capital increased 52 percent.

With the increase in production volume, the machinery most necessary to the national economy received preferential development. Thus the output of elevators increased 3.2-fold, stump pullers and collectors 1.7-fold, elevating graders 1.8-fold, industrial equipment for producing asbestos shingles and asbestos-cement pipe 2.5-fold, equipment for producing prefabricated reinforced-concrete members and structure 2.4-fold, presses for shaping products made of rough-finish ceramics 20-fold, and so on. Among the new machines whose production was mastered, the following, which have high technical, economic and qualitative indicators, should be noted: rotating cement roasting furnaces 7 meters in diameter and 230 meters long, the powerful E-2505 crawler excavator with bucket capacity of 2.5 cubic meters in a northern version, the rubber-tired self-propelled fully rotatable KS-6362 crane with a load-lifting capacity of 40 tons, and its northern KS-6362S modification, the powerful KS-8161 crawler crane with a load-lifting capacity of 100 tons, the D-652AS ripper, based on the DET-250 tractor for work in the Far North environment and other equipment. As a result of fulfilling and overfulfilling the Eighth Five-Year Plan, production volume in 1970 more than tripled that of 1960.

The planning activity enabled construction and road machine building in our country to rise 120-fold during the 1946-1970 period, while the same branch in the USA during this period increased production volume only 6-fold.

The execution of measures to develop the industry during the Eight Five-Year Plan, which flowed from the goals of the national-economic plan, created the necessary prerequisites for successful fulfillment of the Ninth Five-Year Plan.

In accordance with the plan for developing the USSR's national economy during the Ninth Five-Year Plan, the output of construction and road machines of the basic products list with high unit capacity was developed at an outstripping pace during 1971-1975.

Work on the creation and mastery of the production of land-reclamation equipment continued.

The volume of production of excavators with bucket capacities of 1.25 cubic meters increased 1.4-fold, of truck cranes with load-lifting capacities of 10 tons or more 3-fold, of rubber-tired cranes with load-lifting capacities of 40 tons or higher 5-fold, of tower cranes with load-lifting capacities of 10 tons or higher 4.9-fold, of bulldozers of 130 or higher hp 5.4-fold, and of motor graders of 130 or higher hp almost 10-fold over 1970. The production of a whole series of highly effective construction hydraulic excavators of increasing size, with bucket capacities of 0.25-2.5 cubic meters, whose productivity exceeds by 35-50 percent this indicator for excavators with mechanical drive, was organized. The organization at some of the industry's plants of the production of hydraulic apparatus that meets modern requirements in terms of parameters helped to accelerate progress in the development of these excavators. A remarkable result of the industry's work during the Ninth Five-Year Plan was the output of about 16,000 units of construction equipment for operation in the environment of the Far North.

Total growth in the industry's output during the Ninth Five-Year Plan was 5.8 billion rubles, labor productivity rose almost 1.5-fold and profit 2.3-fold, 87 percent of the growth in total output was achieved through growth in labor productivity, and the output of goods with the State Emblem of Quality quadrupled.

During the five-year plan 84 percent of the entire products list produced by enterprises of the industry was updated, the plan for mastering the production of new machines was overfulfilled, and the serial output of 678 new machines was organized. Among them were the ETR-301 land-reclamation excavator, the ETR-253 rotary excavator, a number of self-propelled hydraulic cranes with telescoping boom and power advance of the sections, a set of self-propelled automated Avtogreyd type graders for the accelerated construction of highways, and others.

/By the start of the current five-year plan/ the construction and road machinebuilding industry had arrived, having had 30 years of work experience. During this period the number of plants had risen from 54 to 162, the plants having at their disposal modern equipment, advanced technology and highly qualified personnel. While in 1946 only 69 bulldozers, 33 scrapers, and 74 mobile cranes and tower cranes were produced, in the first year of the Tenth Five-Year Plan the industry produced 35,000 excavators, 49,000 bulldozers, 12,000 scrapers and 19,000 cranes.

Such intense progress in construction and road machine building in our country during a comparatively short time was enabled by the scientific, planned development of the country's national economy and the labor enthusiasm of the Soviet people. As a result of supplying construction organizations on an ever-increasing scale with modern equipment, the level of mechanization of earthmoving operations reached 99.4 percent, and 1976's mechanization-per-worker ratio in construction increased over 1970's by 75.6 percent.

The industry's chief tasks were defined by "The Main Directions for Developing the USSR's National Economy During the Tenth Five-Year Plan (1976-1980)." In particular, the following tasks were set. Provide for the creation and manufacture of systems of machines for the integrated mechanization of operations in the industry and in agricultural, land-reclamation, housing and road construction, as well as of machines of increased unit capacity, making wide use of hydraulics and automation. Master the series output of equipment for full mechanization of the processes for producing wall materials, rolled and other types of roofing materials, quarried construction materials, sanitary ware, items made of mineral wool for heat and sound insulation, and building materials made of ceramics and natural stone. Expand the products list and raise the technical level of mechanized tools for construction and installation work and of construction-finishing machinery.

In connection with these five-year plan tasks, the ministry envisions an increase in the production volume of industrial products by 1.5-fold, of profit 2.14-fold and labor productivity growth 1.4-fold. The share of output with the State Emblem of Quality is to be almost quadrupled and is to reach 30 percent of total production. Grants for rebuilding and re-equipping existing enterprises with machinery are being doubled.

Production output in 1978 increased over the last year of the Ninth Five-Year Plan by 17 percent. More than 250 new machines, including self-propelled cranes based on special motor-vehicle chassis with telescoping booms and power advance of the sections and with a load-lifting capability of 40 tons, tower cranes with load moment of 300 ton-meters and a lifting height of up to 110 meters and with television, radio and programed control, and other items, have been created and sent to production.

The approved plans for the first 3 years of the Tenth Five-Year Plan have been fulfilled successfully by Minstroydormash enterprises and associations.

COPYRIGHT: "Mashinostroyeniye", "Stroitel'nyye i dorozhnyye mashiny", 1979

11409
CSO: 1821

CONSTRUCTION MACHINERY

STATISTICS ON CONSTRUCTION MACHINE AGE FAULTED

Moscow STROITEL'NAYA GAZETA in Russian 7 Dec 79 p 3

[Article by A, Kovalev, candidate of economic sciences, and V. Filimonov, engineer: "How Old Is 'Old'--For a Machine?"]

[Text] Every year responsible officials of the USSR Ministry of Construction refer to the acute shortage of construction machines in explaining the reasons why construction programs are not being fulfilled. As a matter of fact the ministry's allocation of bulldozers in the traction classes between 6 and 10 tons and higher, truck cranes with a lifting capacity between 10 and 16 tons, and excavators whose bucket sizes between 0.65 and 1 cubic meter is only a fraction of the need for them. Which is precisely why machines have to be used which have outlasted their service life.

The ministry can hardly complain of a shortage of "veteran" machines. One heavy bulldozer in four, one single-bucket excavator in seven and the same proportion of tower cranes have served out their life. This gives rise to quite a few difficulties for machine operators. For example, the annual output of single-bucket excavators drops 2.5-3 percent on the average for every year of operation. Thus after 10 years of operation it drops nearly one-third from what it was. In addition the "veteran" machines between 8 and 10 years of age annually cause losses between 700 and 2,200 rubles.

There is no hope that the demand of the construction industry for machines will be met in the next few years. Consequently, there is no point to fight about writing off the equipment that has served out its life. It is accordingly very important to know the economically feasible limits of utilization of worn-out equipment. And here it is that we really encounter a phenomenon.

It turns out that in the construction industry no systematic records at all are kept on the age-specific composition of the stock of machines. A distinction is made only for machines which have completed their service life. But this is a diverse group. And consequently the capabilities of excavators are treated the same, for example, though they might differ 10 years or more in years of operation, and one may be so dilapidated that nothing of it remains but the name. Yet both in the industrial sector and in highway transportation report forms prescribed by the USSR Central Statistical Administration include the grouping of equipment and trucks by age groups. This makes it possible to exert a vigorous influence on the process of their renewal. In the construction industry also the time would seem to have come to make the transition from episodic one-time surveys of the age-specific composition of construction machines to systematic records of this characteristic. For that purpose, in our opinion, records should be kept on machines by annual age groups to the end of their depreciation period, and every year there should be a full tabulation of the age-specific composition of machines which have gone beyond their service life.

This will create conditions for optimization of plans for development of mechanization in the construction industry. To be specific, in every planning period it will be possible to renew the stock of construction machines, thereby minimizing losses from the use of machines which have outlasted their service life. The well-known formula of imputed costs could be taken as the basis for this.

This approach is becoming more urgent in view of the preparation of documents on methods which call for the transition from value to physical indicators in planning the reproduction of fixed productive capital. It seems to us that this transition will be considerably less effective unless they take into account the age-specific composition of construction equipment.

7045
CSO: 1821

CONSTRUCTION MACHINERY

SERIALLY PRODUCED TOWER CRANES, CONSTRUCTION HOISTS DESCRIBED

Moscow STROITEL'NYYE I DOROZHNYYE MASHINY in Russian No 11, Nov 79 pp 12-13

[Table of specifications]

[Text] Products List of Tower Cranes and Construction Hoists Produced in Series by Minstroydormash [Ministry of Construction, Road and Municipal Machinebuilding] Plants

Register No, designation, purpose, producing plant	Brief specifications
	Tower cranes
KB-674A in various modifications (by lift capacity, reach and lift height). Mobile, self-erecting with rotating tower assembly and beam arm, for erecting buildings up to 25 stories high. Nikopol' Cranebuilding Plant imeni Lenin	Maximum lift capacity 12.5 and 25 t. Load moment 200-400 t·m. Reach, m: maximum 50 and 35, minimum 4. Maximum lift height 46-83 m. Speed, m/min: of lifting and lowering a load 35-100 and 17.5-100; landing a load 2.5 and 1.25; of mobility of load trolley 16.7 and 36.7, of the crane 12.8. Rotating speed: 0.6 rpm. Gage x base: 7.5x7.5 m. Rated power 149 kw. Weight 115-133 tons.
KB-675 in two modifications (with radio-programed control, and without it). Attached, with rotating tower assembly and beam arm, for erecting buildings up to 35 stories high. Nikopol' Cranebuilding Plant imeni Lenin.	Maximum lift capacity 12.5 t. Load moment 320 t·m. Reach 50-4 m. Maximum lift height of hook 114 m. Speed m/min: of lifting and lowering a load 35-100; of landing a load 2.5; of mobility of load trolley 16.7 and 36.7. Rotating speed 0.6 rpm. Rated power 124 kw. Weight 135 t.

Register No, designation, purpose, producing plant	Brief specifications
KB-676 in various modifications (by lift capacity, reach and lift height). General purpose (mobile and attached), self-erecting with rotating tower assembly and beam arm, for erecting buildings up to 37 stories high. Nikopol' Cranebuilding Plant imeni Lenin.	Maximum lift capacity 12.5 and 25 t. Load moment 320 and 400 t·m. Reach, m: maximum 50 and 35, minimum 4. Maximum lift height 120 and 83 m. Speed, m/min: of lifting and lowering a load 35-100 and 17.5-100; of landing a load 2.5 and 1.25; of mobility of load trolley 16.7 and 36.7, and of the crane 12.8. Rotating speed 0.6 rpm. Gage and base: 7.5x 7.5 m. Rated power 137.2 kw. Weight 135-152 t.
KB-573. Attached, with rotating tower assembly and beam arm, for erecting buildings up to 50 stories high. Rzhev Order of "Emblem of Honor" Cranebuilding Plant imeni Kalinin.	Maximum lift capacity 8 t. Load moment 160 t·m. Reach 40-2.5 m. Maximum lift height 150 m. Speed, m/min: of lifting and lowering a load 20 and 40; of landing a load 5; of mobility of load trolley 25. Rotating speed 0.67 rpm. Rated power 74 kw. Weight 113.7 t.
KB-405.2. Mobile, self-erecting, with rotating tower and lift arm, for erecting buildings up to 16 stories high. Rzhev Order of "Emblem of Honor" Cranebuilding Plant imeni Kalinin.	Maximum lift capacity 9 t. Load moment 160 t·m. Reach 25-13 m. Lift height 46.1-60.6 m. Speed m/min: of lifting and lowering a load 22, of landing a load 5, of mobility of the crane 18. Rotating speed 0.6 rpm. Rear clearance 4 m. Gage x base: 6x6 m. Rated power 58 kw. Weight 61.6 t.
KB-401A, KB-401B. Mobile, self-erecting, with rotating tower and lift arm, for erecting buildings up to 16 stories high. KB-401A--Nyazepetrovsk Order of Labor Red Banner Construction-Machinery Plant imeni Kalinin. KB-401B. Moscow Production Association Stroymash.	Maximum lift capacity 8 t. Load moment 125 t·m. Reach 25-13 m. Lift height 46.1-60.6 m. Speed, m/min: of lifting and lowering a load 22 (KB-401A) and 22-59 (KB-401B), of landing a load 5, of crane mobility 17.9. Rotating speed 0.6 rpm. Rear clearance 3.8 m. Gage x base 6x6m. Rated power 58 kw. Weight 48 t.
KB-402B. Mobile, self-erecting, with rotating tower assembly and lift arm, with gooseneck, for building grain elevators. Nyazepetrovsk Order of Labor Red Banner Construction Machinery Plant imeni Kalinin.	Maximum lift capacity, t: w/o gooseneck 8, with gooseneck 3. Load moment, w/o gooseneck 125 t·m, with gooseneck 50 t·m. Reach 25-13 m. Lift height, m: w/o gooseneck 46.1-60.6, with gooseneck 59.5-66.5. Speed m/min: of lifting and lowering load w/o gooseneck 22.5, with gooseneck 45; of landing a load 5 and 10, of crane mobility 17.9. Rotating speed 0.6 rpm. Rear clearance 3.8 m. Gage x base 6x6 m. Rated power 58 kw. Weight 49.5 t.

Register No, designation, purpose, producing plant	Brief specifications
KB-403A in 3 modifications, by reach. Mobile, self-erecting with rotating tower assembly and beam arm, for erecting buildings up to 14 stories high. Moscow Production Association Stroymash.	Maximum lift capacity 8 t. Load moment 120-132 t·m. Reach: maximum 20, 25 and 30 m, minimum 5.5 m. Maximum lift height 41-57.5 m. Speed, m/min: of lifting and lowering a load 40 and 58; of landing a load 5; of mobility of the load trolley 25, of the crane 18. Rotating speed 0.6 rpm. Gage x base: 6x6 m. Rated power 116 kw. Weight 49 t.
KB-100.3. Mobile, self-erecting, with rotating tower assembly of tubular design and lift arm, for erecting buildings up to 9 stories high. Ruslav Cranebuilding Plant.	Maximum lift capacity 8 t. Load moment 100 t·m. Reach 25-12.5 m. Lift height of hook 33-48 m. Speed, m/min: of lifting and lowering a load 27 (with 2-stage load pulley) and 13.5 (with 4-stage load pulley), of landing a load 5 and 2.5, of crane mobility 28. Rotating speed 0.7 rpm. Rear clearance 3.6 m. Gage x base: 4.5x4.5 m. Rated power 40 kw. Weight 32.5 t.
KB-308. Mobile, self-erecting with rotating tower assembly and beam arm, for erecting buildings up to 9 stories high. Nikopol' Cranebuilding Plant imeni Lenin.	Maximum lift capacity 8 t. Load moment 100 t·m. Reach 25-4.8 m. Lift height, m: with horizontal arm 32, with inclined arm 42. Speed of lifting and lowering, m/min: of a load 18-54, of landing a load 2.5 and 5, of mobility of load trolley 26, of the crane 18. Rotating frequency 0.7 rpm. Gage x base: 4.5x4.5 m. Rated power 83 kw. Weight 38.3 t.
KB-306A (S891A). Mobile, self-erecting, with rotating tower assembly and lift arm, for erecting buildings up to 12 stories high. Nikopol' Cranebuilding Plant imeni Lenin.	Maximum lift capacity 8 t. Load moment 100 t·m. Reach 25-12.5 m. Lift height of hook 40.6-53 m. Speed, m/min: of lifting and lowering a load 27 (with 2-stage load pulley) and 13.5 (with 4-stage load pulley), of landing a load 5-2.5; of crane mobility 18. Rotating speed 0.7 rpm. Rear clearance 3.6 m. Gage x base; 4.5x4.5 m. Rated power 49.5 kw. Weight 35.8 t.
KB-307A (KB-100.0A). Mobile, self-erecting with rotating tower assembly and lift arm, for erecting buildings up to 5 stories high. Rzhev Order of "Emblem of Honor" Cranebuilding Plant imeni Kalinin.	Maximum lift capacity 5 t. Load moment 100 t·m. Reach 20-10 m. Lift height of hook 21-33 m. Speed, m/min: of lifting and lowering a load 26, of landing a load 5, of crane mobility 30. Rotating speed 0.6 rpm. Rear clearance 3.5 m. Gage x base: 4.5x4.5 m. Rated power 40 kw. Weight 30 t.
KB-307AS (KB-100.0AS). Mobile, self-erecting, with rotating tower assembly and lift arm, for erecting buildings up to 5 stories high. Ukhta Machinery Plant.	A northern version, based on the KB-100.0A.

Register No, designation, purpose, producing plant	Brief specifications
KB-302A (KB-100.1A). Mobile, self-erecting, with rotating tower assembly of tubular structure and lift arm, for erecting buildings up to 5 stories high. Rustav Cranebuilding Plant.	Maximum lift capacity 5 and 8 t. Load moment 100 t·m. Reach 20-10 m. Lift height 21-33 m. Speed, m/min: of lifting and lowering a load 26, of landing a load 5, of crane mobility 30. Rotating speed 0.7 rpm. Rear clearance 3.5 m. Gage x base: 4.5x4.5 m. Rated power 40 kw. Weight 27 t.
Construction hoists	
TP-5 and TP-5-1 for lifting various building materials and delivery of loads into window openings of buildings during construction, overhaul and finishing work. Priluki Construction-Machinery Plant imeni 25th CPSU Congress.	Lift capacity 0.5 t. Maximum lift height of load 50 m. Amount of movement of load along the horizontal from the mast axis 3.5 m (TP-5) and 3 m (TP-5-1). Speed of lifting a load 0.5 m/sec. Rated power 8 kw. Dimensions: 3.15x1.7x59 m. Weight 5.8 t (TP-5) and 5.5 t (TP-5-1).
TP-9 for lifting building materials and delivering loads into window openings of buildings during construction, overhaul and finishing work. Priluki Construction Machinery Plant imeni 25th CPSU Congress.	Lift capacity 0.5 t. Maximum lift height of a load 17 m. Amount of movement of load along horizontal from mast axis 1.3 m. Speed of lift of a load 0.37 m/sec. Rated power 3 kw. Dimensions: 3.94x2.6x20.6 m. Weight 1.85 t.
TP-12 for lifting building materials and delivering loads into window openings of buildings during construction, overhaul and decorating work. Priluki Construction Machinery Plant imeni 25th CPSU Congress.	Lift capacity 0.5 t. Maximum lift height of a load 27 m. Amount of movement of load along the horizontal from mast axis 1.3 m. Speed of lift of a load 0.37 m/sec. Rated power 3 kw. Dimensions: 3.94x2.6x30.5 m. Weight 2.2 t.
TP-14 for lifting various building materials and delivering loads into window openings of buildings, with release of load on ceiling-floor, during construction, overhaul and finishing work. Priluki Construction Machinery Plant imeni 25th CPSU Congress.	Lift capacity 0.5 t. Maximum lift height of a load 50 m. Amount of movement of a load along horizontal from mast axis 3 m. Speed of lift of a load 0.5 m/sec. Rated power 8.46 kw. Dimensions: 2.45x1.7x58.3 m. Weight 5.3 t.

Register No, designation, purpose, producing plant	Brief specifications
TP-3A for lifting building materials during construction, overhaul and finishing work. Priluki Construction Machinery Plant imeni 25th CPSU Congress.	Lift capacity 0.3 t. Maximum lift height of a load 9 m. Speed of lifting a load 0.5 m/sec. Rated power 3 kw. Dimensions: 2.7x1.58x10.4. Weight 0.8 t

COPYRIGHT: "Mashinostroyeniye", "Stroitel'nyye i dorozhnyye mashiny", 1979

11409
CSO: 1821

CONSTRUCTION MACHINERY

EFFORTS TO GET MORE, BETTER SOIL-COMPACTING MACHINES TOLD

Moscow STROITEL'NAYA GAZETA in Russian 21 Dec 79 p 2

[Letters replying to previous article: "The Asphalt Has Broken Down. Why?"]

[Text] An article was published under this title in STROITEL'NAYA GAZETA of 19 September. It spoke about the necessity for raising the quality of soil compacting during construction and for supplying construction organizations with modern, highly effective machines and mechanisms.

The following replied to the editorial board for publication:

V. Semkovskiy, deputy chief of USSR Gosstroy's Mechanization Section:

"In May of this year USSR Gosstroy examined, along with Minstroydormash [Ministry of Construction, Road and Municipal Machinebuilding] the question of providing construction with the machines necessary for compacting soil. A draft of the plan for 1980 calls for an increase in the production of vibration rollers to 300 instead of the current 100. It is proposed that the Eleventh Five-Year Plan bring the output of vibratory machines that weigh 8 or more tons up to 25-30 percent. Basically new unified self-propelled rollers with combined action and mutually replaceable operating implements that weigh 25-30 and 45-50 tons also will be produced.

"Serial production of hydraulic hammers for the EO-2621, EO-4121A and EO-3322B excavators is to be mastered for compacting soil under crowded conditions. Vibration rollers DU-10A, which weighs 1.5-1.7 tons, made by the Kaliningrad Road-Machinery Plant, can also be used for these purposes."

A. Piskarev, Deputy Minister of Construction, Road and Municipal Machinebuilding:

"In order to compact soil under crowded conditions, Daugavpils's Elektroinstrument plant is producing serially the electrical IE-4505, IE-4502 and IE-4504 tamping machines that weigh from 28 to 160 kg. Comparison testing of these machines has indicated that their specific productivity is higher than that of similar machines produced in the GDR. The vibration level of the control handle of these tampers corresponds to GOST [State All-Union

Standard] requirements, while foreign machines greatly exceed these norms. Therefore, one cannot agree with the author's statement that the builders are not enjoying successes with these tampers. As shown by an investigation of tamper operation under operating conditions that TsNIIOMTP [Central Scientific-Research and Experimental-Design Institute for the Organization and Mechanization of and Technical Aids for Construction] of USSR Gosstroy conducted, the machines proved themselves positively during the construction of large hydroelectric power stations, Kama Motor-Vehicle Plant construction projects and Uralmash foundries, as well as many other construction and industrial facilities.

"The NPO [Science and Production Association] of VNIISMI [All-Union Scientific-Research and Design-Development Institute for Mechanized and Manual Building and Assembly of Tools, Vibrators and Construction-Finishing Machines] continues to work to further improve the design of electrical tampers. In particular, in considering the builders' requirements, the association is developing a tamper with adjustable impact energy and double insulation, the production mastery of which is planned for the Eleventh Five-Year Plan."

A. Kubchik, deputy chief of USSR Gosplan's Heavy, Transport and Road-Construction Machinebuilding Section:

"At USSR Gosplan's proposal, the USSR Council of Ministers adopted in November of this year a decision to increase substantially the output of tools, including electrical tampers. The output volume of those weighing 28-160 kg is to be brought up to 10,200 units by 1983 versus 3,700 this year (according to USSR Gossnab data, the requirement for tampers of the indicated parameters will be 10,000 units).

"It is not desirable to adopt a solution about serial production of the SVT-3MP, VTM-2 and PVT-3 tampers, which the author referred to in his article, prior to wide checking under operating conditions and in comparison testing."

11409
CSO: 1821

BUILDING MATERIALS

POLICY ON SUPERPLASTICIZERS FOR CONCRETE DISCUSSED

Moscow STROITEL'NAYA GAZETA in Russian 14 Dec 79 p 3

[Article by Candidate of Engineering Sciences I. Tsygankov: "Questions Remain"]

[Text] The opinion still prevails that the role of superplasticizers in the production of reinforced concrete reduces down mainly to reducing cement consumption or to accelerating heat treatment. That is, the "supers" are on a par with ordinary chemical additives. This opinion is incorrect. The essence of these concrete-mix thinners, as STROITEL'NAYA GAZETA (No 58 of 16 May, this year, "It Must Start Today") wrote, is radical change in and simplification of the whole technology for producing reinforced concrete and substantial reductions in labor expenditure and material resources.

Today's main requirement for these additives has been clearly defined. It is primarily the production of reinforced-concrete pressure pipe. The conversion to molded mixes improves by far the qualitative and quantitative indicators for the manufacture of this product. For example, much of the pipe operates at pressures of up to four atmospheres. It will be possible, by means of the "supers," to convert ordinary nonpressure pipe, with nontensioned reinforcement, into low-pressure pipe. Thus, additional metal is released for other needs.

The use of superplasticizers is advantageous in producing prefabricated structure made of 600 and 800 grades of concrete. Cost of the articles is reduced on the average by 15 rubles per m^3 and, in some types of columns, even by 50-70 rubles per m^3. In so doing, up to 40 kg of steel reinforcement per cubic meter of product are saved.

The product line of superplasticizers is still extremely small. In essence, only the S-3 additive of NIIZh[illegible]entific-Research Institute for Concrete and Reinforced Concrete] a[illegible] [Scientific-Research Institute of Organic Intermediates and Dyestuffs] of Minkhimprom [Ministry of Chemical Industry] and, partially, an additive of VNIIZhelezobeton [All-Union Scientific-Research Institute for Factory Technology of Prefabricated Reinforced-Concrete Structure and Articles) have passed industrial-test verification.

Experiments conducted by the Ukrainian Institute for Water Resources (Rovno) have established that, with the S-3 additive, 500-grade cement can be used in 600-grade concretes. And 700-grade concretes can be obtained from 500- and 550-grade cements.

The S-3 additive was checked out under industrial conditions at one of the Khabarovsk plants in the manufacture of shell plate, girders and other structure made of 500- and 600-grade concrete, at the Klin Stroyindustriya Combine in the manufacture of roof beams and crane-track girders, and in Leningrad in the manufacture of piles. Regardless of the production process, whether it be unforced unit-flow, fixed prestressing, conveyor line or cassette, and also regardless of the type of enterprise, the additives were highly effective. The Klin combine's experience indicated that in molding a beam it is possible to reduce cement consumption considerably, to halve the level of vibration, and to improve product quality.

In 1978-1979, S-3 was supplied by some 15 ZhBI [reinforced-concrete products] enterprises. It would seem to be good that the additive had been checked in the manufacture of various articles and with different cements. But the harm from such a dispersion has proved to be appreciable. While the constituents of the concretes and the steam-curing regimes therefor were being selected, the reserve of superplasticizers ran short, and so it was not possible to arrange for serial production.

While there is a deficit, the "supers" must be sent to a limited number of plants, primarily pipe plants or those that produce structure made of high-strength concretes.

A tendency to incorporate the use of superplasticizers into new designs for plants has now appeared. But before the design for a new plant is approved, USSR Gossnab should guarantee that the given enterprise will receive additive uninterruptedly and in the required amount. But who should produce it?

Many specialists believe that production of the "supers" should be undertaken by specialized enterprises of the appropriate ministries, not by plants for making reinforced-concrete structure. The Minkhimprom plant in Novomoskovsk is producing large industrial-test batches of S-3 for the second year. It is desirable to start there the construction of a special department with a capacity of 30,000 tons per year. But to this end, USSR Gosplan must speed up the inclusion of this department in the capital construction plan and Minkhimprom should work out the design. Then, during the Eleventh Five-Year Plan plants and construction projects could receive S-3 additive for 12-15 million m^3 of concrete. Expenditures for the department will be recouped in less than a year.

As has been said, superplasticizers are still extremely expensive. Therefore the search for ways to make them cheaper should not cease. In this regard, the work begun by the Chemical Technology Institute imeni Mendeleyev and NIIZhB in the area of compound additives that have properties close to those of the "supers" and require less scarce materials is interesting.

11409
CSO: 1821

BUILDING MATERIALS

WORK LAGS ON BUILDING COMPONENTS PLANTS

Moscow STROITEL'NAYA GAZETA in Russian 18 Jan 80 p 2

[Unsigned article: "In Debt to Rural Areas"]

[Text] In the past 4 years organizations of USSR Minstroy [Ministry of Construction] have delivered three projects at eight complexes, organizations of USSR Minvodkhoz [Ministry of Land Reclamation and Water Resources] not a single one, and USSR Mintyazhstroy [Ministry of Construction of Heavy Industry Enterprises] three projects at three complexes. But subdivisions of USSR Minpromstroy [Ministry of Industrial Construction] put into operation in that same period more projects and capacities at three reclamation facilities than all other contractors of other departments.

Results of Subdivisions of Ministries Operating as Contractors on Construction and Building Materials Industry Complexes of Glavnechernozemvodstroy [Main Administration for Reclamation in the Nonchernozem Zone] in 1979

Ministries Operating as Contractors	Lag Since Beginning of Construction (millions of rubles)	Fulfillment of 1979 Plan (%)
USSR Minpromstroy	5.67	88
USSR Mintyazhstroy	8.51	73
USSR Minstroy	8.03	54
USSR Minvodkhoz	13.48	63

What sort of capacities have gone into operation? At the Bryansk facility the state commission accepted for operation the first phase of a metal fabrication plant with an output of 10,000 tons. Ryazan' builders, operating under the "Worker Relay" agreement, were able to complete construction and installation of equipment at the largest reinforced-concrete products plant in the Nonchernozem Zone and made good progress on projects to go into operation in 1980.

Aside from subdivisions of USSR Minpromstroy, auxiliary projects were erected at the Balakhna facility by organizations of Glavvolgavyatskstroy

[Main Administration for Construction in the Volga-Vyatka Economic Region] of the USSR Ministry of Construction, and by the association Komityazhstroy and the trust Vologdapromstroy of USSR Mintyazhstroy--at facilities near Syktyvkar and in Vologda. Kaluga construction workers--who are the initiators of the competition under the slogan "Worker Relay"--delivered the UPTK [Administration for Making up Complete Production Equipment Deliveries] workshop to the customer ahead of schedule.

Though these facilities are needed by reclamation workers, they are not the ones that are decisive to the evolution of the Nonchernozem Zone's building materials industry. The most important thing is to build capacities for the manufacture of precast concrete, components of residential and public buildings, and economical metal fabrications. USSR Gosplan set a target for last year of putting enterprises into operation with an output of 330,000 cubic meters of reinforced-concrete products. The growth actually achieved was only 65,000--in Ryazanskaya Oblast.

As we see, the expectations of reclamation workers were not borne out. Perhaps there was a shortage of funds or equipment or project plans and estimates? No, all these matters were settled in good time. If something was missing, it was organization and synchronized effort.

For example, the Pskov facility is being created for reconstruction of an existing enterprise. Before construction workers of the Pskov regional administration (chief A. Vlasov) arrived there, 15,000 cubic meters of precast concrete were delivered. But it is now the fifth year since production was altogether shut down, and the prospects are discouraging: only slightly more than 2 million rubles of the total 11.5 million rubles of construction and installation work has been done. For 2 years they did not undertake to build the substation, it took another 2 to disassemble the old equipment in the shops, and in the third year they did not complete the connecting gallery.

Every opportunity existed for activating the reinforced-concrete products plant of the Kostroma construction and building materials complex. Subdivisions of Kuybyshevgidrostroy and Kuybyshevpromstroy, which were managers of the construction project, staged competitions among subcontractors and erected the principal facilities of the enterprise on schedule or ahead of schedule. But their partner--the trust Kostromastroy--did not finish laying the heating system mains from the neighboring TETs, though this should have been done the year before last.

The situation was compounded by the fact that in a number of ministries they have come to see the bad practice of scattering energies and resources over numerous projects as a necessary evil. A review entitled "Nearing the Finish Line," which was published on 21 October 1979, noted that the main production building of the precast concrete products plant had long ago been erected at the Vologda facility. And what is the significance of that? The subdivisions were transferred from that construction site to projects for completion in subsequent years and ... to construction sites in the oblast seat. Comrade Yermilov, chief of Glavsevzaptyazhstroy [Main Administration for Heavy Industry Construction in the Northwest] of USSR Mintyazhstroy, instead of getting to the heart of the matter, spoke about the need to concentrate efforts in his reply to the editors....

After all, there are examples to emulate. Constructive experience has been gained in the interaction of central departments and oblast agencies in construction of enterprises of the construction and building materials industry of Glavnechernozemvodstroy. Local initiative is strengthened by the support of the ministries operating as contractors. A definite pattern is to be seen in the fact that of the three complexes being built by USSR Minpromstroy, all three have been brought close to completion of construction and to startup. And this is because the ministry planned for them amounts of work sufficient to bring the complexes to near-completion. They were allocated material and technical resources accordingly. It is obvious that USSR Gosplan should make a rule of this approach.

Full-fledged support should be given to the initiative of the Ryazan' construction workers, who assumed the obligation to fulfill assignments for rural and reclamation construction ahead of schedule. This initiative was approved by the CPSU Central Committee. The oblast startup staff, directed by S. Polyanskiy, deputy chairman of the Ryazanskaya Oblast Ispolkom, and S. Shiryayev, head of the construction division of the CPSU Obkom, has made a purposive effort so that each of the 38 subcontractors completes his obligation under the "Worker Relay" agreement on time.

The entire country is helping the Nonchernozem Zone. Emissaries of many union republics are making a solid contribution to development of the facility. But supervision could be even more effective. For example, this is the second year that the reinforced-concrete products plant with a capacity of 80,000 cubic meters in Ivanovskaya Oblast has not been put into operation. N. Khamrayev, chief of Glavsredazirsovkhozstroy, has repeatedly assured both the editors of STROITEL'NAYA GAZETA and the collegium of USSR Minvodkhoz that the plant will be built. But his words do not square with the facts. The people in the ministry have simply reconciled themselves to the lack of discipline of a responsible official. Managers of Glavkuban'risstroy [Main Administration for Rice Paddy Construction in the Kuban'] and Glavastrakhanrisstroy [Main Administration for Rice Paddy Construction in Astrakhanskaya Oblast] have been up to their promises. Patrons from Krasnodarskiy Kray, for example, found no other solution than to reduce the amount of their assistance.

The position of Glavnechernozemvodstroy deserves a serious reproach. The management staffs of construction and building materials industry complexes under construction have largely been left to themselves, and the main administration's divisions and administrations have done little to coordinate their efforts. Oblast reclamation associations, regarding this as a function of the main administration, have not become involved in the affairs of the construction projects. It seems that Glavnechernozemvodstroy cannot do without a full-fledged subdivision serving as the general directorate for construction of the unified enterprises of the construction and building materials industry.

Four years of the 10th Five-Year Plan have passed. Construction of reclamation facilities has lasted all that time. But the achievements at present are more than modest. At the present time, when new obligations are being assumed, the oversights and mistakes of the past should be analyzed. We cannot expect a change for the better without the proper organization of the construction process.

7045
CSO: 1821

WOOD WIDELY USED IN HOUSING CONSTRUCTION

Moscow STROITEL'NAYA GAZETA in Russian 20 Jan 80 p 3

[Interview with N. Serov, USSR deputy minister of timber and woodworking industry, by correspondent O. Pakhomova: "New Attributes of the Industry"]

> [Text] The decree of the CPSU Central Committee and USSR Council of Ministers entitled "On Further Development of Off-Site Production of Wood-Panel Dwellings and Complete Sets of Wood Components for Dwellings Using Local Materials or Rural Housing Construction" calls for comprehensive development of the stationary facilities for off-site housing construction of Minlesprom [Ministry of Timber and Woodworking Industry]. In practical terms this means that a new subindustry of the woodworking industry will be created: off-site large-panel wood housing construction. Our correspondent O. Pakhomova interviewed N. Serov, USSR deputy minister of timber and woodworking industry, on strategies in carrying out the long-range program.

Question: Nikolay Aleksandrovich, what is to be done to develop the leading direction in wood housing construction--the manufacture of panel buildings?

Answer: First of all, the volume of production of such dwellings will be increased sharply. By 1985 their output is to reach 5.1 million square meters, and in 1990--7.9 million, against 1.5 million square meters at the present time. In addition, in 10 years production of complete sets of wooden components will more than triple over today's level. But, of course, it is not just a matter of volume. Our plants must produce qualitatively new dwellings in kits that meet the higher present-day requirements with respect to comfort and architecture.

The decree calls for construction and reconstruction of 127 housing construction and woodworking enterprises, plumbing supplies plants and plants producing nonstandard equipment and the relevant spare parts over the next

10 years. For example, new assembly housing construction combines will be built in Arkhangel'skaya, Kalininskaya, Tul'skaya, Volgogradskaya and Tyumenskaya oblasts and in the Ukrainian, Uzbek and Kazakh union republics.

Question: A few words about what will be done this very year.

Answer: In 1980 we plan to produce at our 18 enterprises 1.7 million square meters of panel dwellings, i.e., 50 percent of the total volume of production. In the second half of the year the Pestovo Combine in Novgorodskaya Oblast will produce a complete kit of a panel house with preinstalled heating units and plumbing. Preparatory work is now under way there for the transition to the new organization of production.

Beginning this year housing construction enterprises will receive cover plates made from pressed wood fiber, shapes stamped from aluminum and its alloys, polyvinyl chloride pogonazhnyye products and other materials necessary for housing construction.

In the first half of the year our project planning organizations are to draft and approve feasibility studies for the project planning and construction of more than 30 housing construction and woodworking enterprises. Construction of 21 of them will begin in 1981.

This year we begin reconstruction of the Novovyatsk and Sel'tso combines and construction of the Dmitrov Experimental Plant.

Question: What sort of dwellings are the plants of USSR Minlesprom manufacturing now and what will they be manufacturing in the future?

Answer: Our institute Giprolesprom [State Design Institute for the Planning of Enterprises of the Woodworking Industry] has developed more than 70 standard designs of wood dwellings for the country's different climatic regions, incorporating improved architectural and layout features and up-to-date utilities. This makes it possible for construction workers to build one- and two-story rural dwellings with a differing makeup of the rooms.

For instance, wood-panel dwellings with improved layout for the rural areas of the Nonchernozem Zone are being manufactured by the Uva, Tilitskiy, Pestovo, Yushala, Volzhsk, Shar'ya and other combines. Many of these enterprises displayed their products at the international fair "Lesdrevmash-79."

More than a million square meters of housing with an increased degree of prefabrication have been delivered in the last 3 years to construction workers of the BAM and petroleum industry workers in Siberia and the Far North by the collectives of the Novovyatsk and Vyatskiye Polyany wood-panel combines and the Khor Housing Construction Combine. Now the Novovyatsk combine is organizing the production of two-story dwellings for the Southern Yakut coal basin.

But still a majority of our enterprises are manufacturing dwellings which have not been industrialized. Accordingly a great deal of work must be done this year to convert enterprises to the production of dwellings with improved layout in accordance with construction standards and rules.

Question: The ministry has been ordered to carry out a uniform technical policy with respect to wood housing construction. What are its main directions?

Answer: Emphasis in selecting technology has been put on using conveyors and flow lines to organize the manufacture of fabrications with maximum standardization of assemblies and parts. It is assumed that the dwellings will be made of small (1.2 meters) and large (up to 6 meters) panels. A complex of assembly equipment for the small panels manufactured by the Ministry of Machinebuilding Industry and tested at the Pestovo combine in 1978 has been accepted for series production. Three housing construction combines will be outfitted with this equipment.

Most of the dwellings are to be manufactured from large panels. The full-scale experimental model of the specialized equipment with a capacity of 250,000 square meters of housing per year, developed by the Ministry of Machine Tool Industry, is to be tested this very year at the Shar'ya Housing Construction Combine.

Minlesprom has partially issued and in the very near future will complete the issue of technical specifications for creation of equipment for production of Model OK-250 windows and DV-250 doors.

Question: The association Soyuznauchplitprom has a special role to play in scientific-technical support of housing construction facilities. What can you say about its programs?

Answer: Specialists of this association are to test new types of efficient construction materials that ensure a substantial reduction of the wood intensiveness of dwellings. Moreover, research and development is to be speeded up toward putting efficient new materials into production. This very year the Sel'tso Housing Construction Combine is to deliver 6 million linear meters of wood-fiber products to housing construction combines. And the total volume of their production by 1990, for housing construction enterprises alone, is to be increased to 15 million running meters.

Wood chipboard panels made from large-size oriented shavings on a phenol formaldehyde binder are becoming one of the important materials in housing construction. The new materials are scheduled for delivery in 1982.

Question: Tell about the organizational steps and main directions of joint work by USSR Minlesprom with other ministries and departments involved in development of the wood housing construction industry.

Answer: First of all, our structure is to be reorganized. Dwellings will be produced by enterprises of two types: timbering enterprises and assembly enterprises. The timbering enterprises, located in regions with a surplus of timber, are designed for production and delivery of lumber to the assembly plants. The assembly enterprises (basically these are new housing construction combines specializing in wood-panel dwelling construction each with an average output of 250,000 square meters of total floor space); they are close to the areas where the buildings are to be built and will perform all the operations involved in assembly and finishing of fabrications, and in outfitting the dwellings with utility equipment. In our ministry a main administration is being set up for the wood housing construction industry; its responsibility will be to supervise the production of wood houses, coordinate the design of housing construction and woodworking enterprises and develop new designs of residential buildings.

In accordance with the decree of the CPSU Central Committee and USSR Council of Ministers, we have developed technical specifications jointly with Gosgrazhdanstroy for creation of new standard designs of panel dwellings intended for production at enterprises of the woodworking industry. The technical specifications call for maximum standardization of the assemblies and parts of the dwellings and for a high degree of prefabrication.

Widespread use of efficient building materials is now taken for granted in the present-day rural house. To be specific, cement-shaving and wood-shaving panels made from large-size oriented shavings, and water-resistant large-size plywood are used for exterior finishing and screening. For interior sheathing such fire-resistant materials as gypsum-fiber sheets and lightweight gypsum-cardboard sheets. For thermal insulation there are rock wool batts with weights up to 100 kg per cubic meter and cast phenolic foamed plastic. To increase reliability and improve the architectural appearance of dwellings polyethylene sealing strips, die-pressed aluminum shapes, and colored flat asbestos-cement sheets will be used. We believe rural inhabitants will really like the patterned glass in interior doors and the factory-made double-insulating glass instead of the traditional window glass.

Many of these materials are still not being produced by the domestic industry or are being produced in limited quantities. The decree that has been adopted gives ministries and departments assignments for organizing the production of these materials.

The workers of USSR Minlesprom are making every effort to perform by the specified time the assignments defined in the decree and to ensure smooth operation of the construction conveyor in rural areas.

7045
CSO: 1821

BUILDING MATERIALS

CURRENT PREPARATIONS FOR PRODUCING WOOD-CONCRETE TOLD

Moscow STROITEL'NAYA GAZETA in Russian 25 Jan 80 p 3

[Article by V. Kapel'kin, Izdeshkovo settlement, Smolenskaya Oblast: "Under the 'Arbolit' Program"]

[Text] Wooden housing is to the liking of many rural residents. Stone homes have many admirers. Each of these oldest of materials has its advantages, as well as, incidentally, deficiencies. But there is still a material, not yet widely used, that combines the best qualities of both wood and stone.

Derived from the Greek words "arbo" [sic] (wood) and "litos" (stone), the word arbolit is fairly well known to rural builders. Experience in the operation of arbolit buildings that interkolkhoz construction associations have erected in Krasnodarskiy and Krasnoyarskiy krays and Gor'kovskaya, Vologodskaya, Saratovskaya and other oblasts indicates that they retain, as do wooden homes, favorable moisture and temperature regimes. And arbolit houses get from stone such important characteristics as strength, longevity, fire resistance and biostability.

"Without claiming a monopoly on its use (arbolit has been introduced abroad also, in industrial construction), I consider that this is certainly our rural material," asserts chief of Glavstroymaterialy [Main Administration for Building Materials] of Roskolkhozstroyob"yedineniye [All-Russian Association for Interkolkhoz Construction Organizations] V. Kuznetsov. "Primarily, it is available and inexpensive. Logging and wood-processing waste, cane, stalks of the cotton, flax and hemp plants, rice straw and sunflower husks are used as filler. The unused reserves of such waste are great. They are concentrated mainly in the countryside."

A binder--cement or gypsum--converts the discarded material into stone with valuable construction properties. Arbolit structure is light and strong.

The CPSU Central Committee and USSR Council of Ministers decree about developing wooden housing construction attributes great importance to increasing arbolit output. Therefore Roskolkhozstroyob"yedineniye has worked out an entire Arbolit program under which, by the end of the Eleventh Five-Year

Plan, the output of this material is to be brought up to half a million cubic meters per year. It calls for the development of progressive technology and highly productive machinery with which the entire arbolit subbranch of the construction industry can be equipped.

The hot spot of the Arbolit program today is the small Izdeshkovo settlement in Smolenskaya Oblast. At an experimental DSK [housing construction combine] there, Roskolkhozstroyob"yedineniye has been perfecting the technology for arbolit products that was created by specialists of Saratov's Sel'stroymaterialy [Rural Building-Materials Association]. The deputy chief engineer of this industrial design and production association, A. Biya, told about its characteristics:

"Instead of the traditional pressing or tamping of the arbolit mix, we proposed to roll it on in layers. The material is turned out not with the old random orientation but with a directed orientation of the wood fibers, which greatly raises the quality of the articles. They can be used not only for walls but also for floors, ceiling floors, and socles."

An industrial test of the Saratov association's molding machine has been going on now for more than 2 years. Tests of panels in NIIZhB [Scientific-Research Institute for Concrete and Reinforced Concrete] have produced good results. Eight hundred cubic meters of parts made of arbolit have been installed at Smolenskaya Oblast facilities. Most of it at the livestock raising complex at Sovkhoz Nakhimovskiy, which was recently turned over for operation. Client and contractor are convinced that arbolit is an excellent material for rural construction.

And what else? Of course, there is no hope of manufacturing enough large-series molding machines at Roskolkhozstroyob"yedineniye repair plants. Indeed, even the firstling of Saratov's Sel'stroymaterialy was far from perfect. It was impossible to manufacture many of its components with the requisite quality just at specialized machinebuilding enterprises. It was finally decided to make Minstroydormash a partner with Roskolkhozstroyob"yedineniye in this regard. Minstroydormash was entrusted with arranging for the series output of machines and tooling for molding items made of arbolit. And now, along with the industrial-test model at Izdeshkovo, a prototype rig of the SMZh-506 series, which will be made at Cherkassy's Strommashina plant of USSR Minstroydormash, has been assembled. It is distinguished from its predecessor by improvement of the molds, more reliable fasteners, cleanness in processing and decorating pieces, and the presence of automation equipment.

"Workers' tests of the machine have gone on successfully," notes Giprostrommashina [All-Union State Design Institute for Construction Machinebuilding for Reinforced Concrete] director V. Nifontov. "There is confidence that the unit will quickly yield its designed capacity--12,000 m^3 of arbolit per year."

The arbolit program contemplated that the tooling for molding panels would be produced by this same Strommashina plant at Cherkassy, which is known for this part. It did so with good quality.

"Roskolkhozstroyob"yedineniye enterprises can only dream about equipment of such high quality," says plant director of the Izdeshkovo Experimental DSK V. Lebed'. "It's too bad that we have to yield to another enterprise this excellent tooling that is intended for the standard 135 series, but it is not now in our products line."

Instead of this, Smolenskaya Oblast decided to build homes of the new, improved 35 series that was introduced in Lithuania. But the 35 series had not yet been approved as standard. Just a few months ago there was no documentation for an arbolit variant of this housing. Using the institute's rough architectural and layout drawings, Smolenskgrazhdanproyekt [Institute for the Design of Public Buildings and Housing in Smolenskaya Oblast] specialists of Saratov's Sel'stroymaterialy quickly worked out the drawings for arbolit structure for the housing and the tooling.

However, in addition to the molding machines, the industrial line for producing arbolit products includes equipment for crushing and mixing the woody raw materials, as well as mechanisms for finishing the products. The fate of this equipment still is not clear. Izdeshkovo is using for this purpose various mechanisms and units that are more or less suitable, which Minlesprom [Ministry of Timber and Wood-Processing Industry] and Minstankoprom [Ministry of Machine Tool and Toolmaking Industry] produces for entirely different purposes. Mechanized equipment for finishing the structure is still completely lacking.

It is necessary that Minstroydormash deliver the arbolite equipment completely outfitted. Negotiations on this question on the part of Roskolkhozstroyob"yedineniye and the ministry named have produced no results; this can complicate execution of the entire Arbolit program.

It is proposed that half of the Izdeshkovo industrial line's designed capacity be mastered this year. In other words, structure must be manufactured for 35 farmstead housing units, which must be built and turned over in turnkey fashion. The Safonov Mobile Mechanized Column of the experimental DSK right now is laying the foundation for the first such buildings.

11409
CSO: 1821

OUTPUT OF REBUILT BUILDING-MATERIALS PLANT NOT FAIRLY PRICED

Moscow STROITEL'NAYA GAZETA in Russian 8 Dec 79 p 2

[Article by B. Khaykis, manager of Kurgangrazhdanstroy [Trust for the Construction of Public Buildings and Housing in Kurganskaya Oblast], and V. Prokopenko, director of Reinforced Concrete Products Plant No 2, Kurgan: "An Economic Paradox: Losses from the Assembly Line"]

[Text] Reconstruction has been completed at the Kurgan Reinforced-Concrete Products Plant No 2. Conveyorized technology has been introduced to replace the obsolete unforced unit-flow technology. Electricity is used for heat treatment. Factory manufacture of articles has risen from 50 to 80 percent. The plant has mastered the output of 111-121 series apartment houses, but it has been transformed from a profitable plant, with an annual profit of a million rubles, into a losing plant. Why has this occurred?

It is not difficult to see the reason: the planned operating cost of the new output was based on "the achieved level," but this concerned the simpler 464-series articles. We are now producing outside wall panels fully fabricated at the plant. But they are bought from the plant at a price that is lower than that of panels that must be finished off at the construction site.

We cite the result with distress: labor intensiveness of the 111-121 series is 73 percent higher than for the 464 series. But why should the housing builders be the defendants for this and not the developers of the series? We presented the appropriate figures to USSR Mintyazhstroy [Ministry of Construction of Heavy Industry Enterprises] and they were acknowledged to be correct, but that was all. USSR Goskomtrud [State Committee for Labor and Wages] also concurred with our reasoning, but everything has remained as it was.

It is known from experience that labor intensiveness during the initial period for mastering new series of output rises sharply, and regularity of the pace drops off. It has remained like this until now, and the new technology still has not been set right. In order to avoid reduced production volume, worker manning and the wage fund have had to be increased, and temporary increased prices, which are reduced by the year, had to be introduced during the transition period. Of course, all this had to be confirmed by precise calculations. Unfortunately, no one has takes these calculations seriously. Usually, an enterprise that is rebuilt is assigned an increase in production over the previous year, as if such planning will mobilize the collectives.

It turns out actually to be quite different. Finding itself suddenly in the company of the laggards and deprived of the existing incentive funds, the enterprise runs the risk of losing the collective, of becoming a revolving door for stray people and being stuck in such a situation for years.

And now I would like to draw a general conclusion about the weakness and unreliability of the whole mechanism of rebuilding our housing-construction branch. Take a look--who makes up the designs? As a rule, the nonspecialized services of an Orgtekhstroy under the regional main administrations. That's the way it was with us in Kurgan. Did the designs include numerous optimal technological solutions that would promise to reduce labor intensiveness and raise labor productivity growth substantially? Unfortunately, you will not say so. Most often the plant independently looks among related enterprises for conveyor-line plans. It is known that domestic machinebuilding does not produce outfitting equipment for ZhBI plants, of which there are hundreds in the country. The tooling that has to be ordered at local enterprises is imperfected. And therefore, under the current procedure for converting existing housing-construction plants to the mastery of a new series, there is no guarantee that optimal technological variants will be selected. That's the way it was with us in Kurgan.

What, in our view, must be done to assure that reconstruction will truly achieve its aims--of raising housing construction technology to a new qualitative level?

Economically accountable production associations should be created under the construction ministries, along with design and research institutes, for choosing optimal schemes for reconstruction for each specific housing-construction enterprise. These associations should be engaged in drawing up designs for fabricating nonstandard equipment, in outfitting rebuilt plants strictly in accordance with the schedules, and in carrying out setting-up and startup operations. Such a procedure would permit an end to the haphazard work, long rebuilding time, and design-development errors that irritate everyone today, when rebuilding is done on a "voluntary basis." It is possible to easily and correctly adjust price-setting to the output of enterprises that have been reequipped.

11409
CSO: 1821

BUILDING MATERIALS

SUPPLIERS DENY BUILDERS EXTRA METAL FOR SPECIAL NEEDS

Moscow STROITEL'NAY GAZETA in Russian 23 Nov 79 p 2

[Article by Yu. Z be ko, chairman of the Zaporozhskaya Oblast Committee of the Trade Union c onstruction and Building-Materials Industry Workers: "Multiton Jackstr "]

[Text] No, whatever may be said, we have not been reduced yet to the old folk games of lapta, gorodku, chizhik and so on.

It is true, some changes have been made. As decreed by the times, so to speak. By way of modernization. Like the game of jackstraws in which, as V. Dal' asserted, the participants should alternately withdraw straws, or little playthings called jackstraws, cut to equal lengths, without disturbing the pile.

But, you will agree, in our century of space and cybernetics a straw seems like an anachronism. Rolled metal has become accepted among builders as a building material. And not some kind of fine rods of wire or fine section, but solid multiton stacks.

And the rules have been improved. Partnership is limited to two sides, but here each side enters the number of people it needs. Since, clearly, it is not feasible for one person to draw stacks out of the pile of metal, the game proceeds by means of numerical calculations, using an electronic computer. In this case, the first partner requests so many tons for the construction of a facility, but the second asserts that half that much will be enough. The first lays working drawings and budget-estimated requirements down on the table, and the second puts down the appropriate standards documents. The first refers to special conditions, while the second claims to know nothing about them.

The jackstraw game occurs annually in just that spirit when Zaporozhzhilstroy [Zaporozh'ye Housing Construction Trust] defends its orders for materials to the UkSSR Ministry of Construction of Heavy Industry Enterprises.

The ministry is guided by SN-455-77's norms per 1,000 square meters of housing and by SN-256-77's norms per 1 million rubles' worth of construction of facilities for cultural and domestic-services. At the same time, the design for construction in Zaporozh'ye on soil of the second subsidence category indicates that these norms do not reflect the true requirement. The designs incorporate a stiffener ring for each story, reinforced footings and other metal-consuming structure.

Therefore the design consumption of metal greatly exceeds the standard. According to existing norms, 47.56 tons of rolled metal are assumed per 1,000 square meters of 9-story large-panel apartment houses of the 1-480A series, but, according to the working-drawing calculations, it is 55.86 tons. It is not difficult to determine the total gap if one considers that this year 190,000 square meters of such apartment housing in all are to be built this year.

How is the constant overfulfillment of plans for housing construction to be correlated with the disparity in funds for rolled metal?

The same jackstraw game goes on throughout the year. When the construction assembly line begins to spin its wheels because of a lack of metal and then stops altogether, UkSSR Mintyazhstroy [Ministry of Construction of Heavy Industry Enterprises] deals out a few pieces of metal to it from its own reserves. Another critical situation comes to a head, and again there is an injection of rolled metal. The time won by enormous strenuous labor, the involvement of new internal reserves and creative alertness and engineering study is spent paying for idle time. Commitments for highly effective comprehensive competition for the construction of housing are threatened, and trust in the capability of organization and enterprise managers to create conditions for highly effective work are placed in doubt.

The injection does not occur all by itself. From the first days of the calendar year, a large detachment of engineers and technicians under the combine chief are engaged in searching for and in wringing out the needed metal. Rolled metal is elevated to the stature of a deity. Prayers are offered for it, odes of supplementary computations and poems of numerical calculations are dedicated to it. Shock brigades of specialists, tossing aside site preparation and improvement in the management of production, march in procession between Zaporozh'ye and Kiev. They are arguing what has already been proved to be unquestionable to doubters. Why, and in the name of what?

One can understand the UkSSR managers, who are restricted by funds for rolled metal. But why don't UkSSR Gosstroy and Gosgrazhdanstroy [State Committee for the Construction of Housing and Public Buildings], to whom the Zaporozh'ye combine and oblast organization managers have repeatedly appealed, take steps to bring the norms into correspondence with the true requirements?

11409
CSO: 1821

METALWORKING EQUIPMENT

INCREASING LABOR PRODUCTIVITY VIA TECHNOLOGY

Moscow MEKHANIZATSIYA I AVTOMATIZATSIYA PROIZVODSTVA in Russian No 9, 1979 pp 4-6

/Article by Doctoral Candidate of Economic Sciences V. V. Bitunov, Deputy Chairman of the Moscow Soviet of Peoples' Deputies: "Mechanization and Automation of Production at Moscow Industrial Enterprises"

/Text/ An important feature of the modern stage of economic development of the Soviet Union is the steady growth in the role of intensive factors and primarily labor productivity. Speaking at the November (1978) Plenum of the CPSU Central Committee, L. I. Brezhnev said, "One must take into consideration that starting with the 1980s we must give greater emphasis to the intensive factors of economic growth, since other factors are sharply limited. This refers primarily to the possibilities of attracting new labor resources." *

The particular acuteness of the task of switching to the intensification of production in all sectors is felt in Moscow. The growth in the capitol's population (presently slightly over 8 million people) at rates significantly exceeding estimates of the general plan for its development (to 1990) creates many complicated economic, social, city-planning and ecological problems. One of these problems is that the rates for improving housing conditions of Muscovites are being slowed and the transportation problem is constantly becoming more acute. Many Muscovites are daily forced to expend more than one and a half hours to travel to work and back, which must have a negative effect upon their labor productivity. Moreover, additional housing construction in new outlying areas is constantly lengthening the average distance of commuting. What is more, the growth in the intensity of traffic flows is increasing traffic noise, which also does not promote a growth in labor productivity. At present in conditions of a constantly growing city population expenditures for building roads, engineering facilities, the operation of transportation means and so forth, are increasing for each new work space.

At the same time even with a stable work force in Moscow, the number of workers in several sectors of the city's economy must be increased. For example, at present in the capitol 12-, 16- and more storey housing units

---

* "KOMMUNIST", 1978, No 17, p 14

are being constructed. Each such unit is a complex engineering facility requiring large expenditures of labor for their operation and maintenance. The construction of housing units requires the construction of service facilities, which also require workers (for example, the number of workers engaged in health care in Moscow following 1970 has increased by approximately 30 per cent). This leads to the necessity for an utmost economizing of labor in all spheres where labor is used and also the need to reduce the number of workers in several sectors of the capitol's national economy, particularly in industry, construction, science and scientific services.

In the general plans for the development of Moscow there has always been the problem of economizing on labor in industrial production. In the present plan it is projected that the growth in the amount of industrial production of the capitol must be accomplished with a reduction in workers. In part this reduction must be supported by moving several enterprises out of Moscow, due largely to a growth in labor productivity at rates which exceed the growth rates of the amount of production.

To realize the requirements of the general plan for the development of the capital much is being done for the technical reoutfitting of production, its mechanization and automation, for raising labor productivity and conserving labor in all spheres. For example, the positive experience of the Main Administration for the Moscow Construction Materials Industry under the executive committee of the Mossovet is well known; here when drawing up a plan for the Tenth Five-Year Plan a decision was made to support the entire growth in the amounts of production without bringing in an additional work force.

The pledges taken on by the workers of this administration are being successfully fulfilled; in the sector several important organizational, planning and technical measures are being accomplished; and the assignments for growth in labor productivity of this sector of the capitol's industry are being overfulfilled.

The growth rates of labor productivity for individual sectors of Moscow's national economy in several instances exceed what has been achieved on the whole for the Soviet Union. For example, in 1977 (in relation to 1970) labor productivity in the USSR's machine building sector amounted to 170 per cent, while in Moscow's machine building this figure was 183 per cent; in the textile industry of the USSR the figure was 131 per cent and for Moscow it was 132 per cent; at trade and public dining enterprises for the Soviet Union on the whole the percentage was 122 percent and for Moscow it was 138 per cent. Similar data could be cited for several other sectors.

In Moscow a policy is being pursued to directly link science with production. During the years of the Tenth Five-Year Plan alone there was a significant increase in the role of intensive factors for the development of the city's economy. During this same period of time in the city were automated and comprehensively mechanized 13 enterprises, nearly 1,900 flow and mechanized lines were adopted and 600 automated lines were adopted. Each year nearly 170 shops and sections are comprehensively mechanized and automated. Measures taken during the period of 1971 through 1975 according to new technology freed nearly 100,000 workers for other jobs.

The creation in the housing offices of unified dispatch services alone freed 11,000 men with a simultaneous improvement in service to the population.

An important job in adopting new technology and advanced technology is underway in city transport, where the organization of passenger and cargo carrying is being improved, including on the basis of adopting computery; the quality of the technical servicing and repair of railroad equipment /rolling stock/ is constantly improving; and the conservation of labor expenditures is being provided.

As a result of the creative cooperation of the automotive organization of Glavmosavtotrans /Moscow Main Administration for Automotive Transport/ with the automobile plants and scientific-research organizations the distance covered by cargo motor vehicles without capital repair has been increased to 350,000 kilometers. This has significantly reduced the labor intensiveness of technical servicing and repair of automobiles and has saved on spare parts.

A basic trend in the development of Moscow's industry is the reconstruction of existing enterprises and their technical reoutfitting. Moscow organizations are striving to ensure that all industrial enterprises and construction organizations in Moscow are exemplary in the level of technology and organization of production, and that they provide the highest labor productivity for their conditions.

As a rule, the use of new highly-productive equipment requires more improved production conditions. In the majority of cases in order to adopt new, highly-productive, automated equipment it is necessary to expand production spaces; usually this is accomplished due to the wearing out of dilapidated and antiquated production buildings. For this reason the rates of the technical re-outfitting of Moscow's industry depends largely upon the scale of the work to reconstruct industrial enterprises and the construction of new, modern enterprises.

The scale of the reconstruction of Moscow's industrial enterprises in recent time has increased sharply; the annual expenditures for reconstruction have increased by 25 per cent. At the same time in the Ninth Five-Year Plan as compared to the Eighth Five-Year Plan the introduction of fixed assets in industry increased more than 1.5-fold.

In many cases the reconstruction of enterprises truly results in a sharp increase in labor productivity. For example, according to the plan for the reconstrction of the Moscow Machine Tool Building Plant imeni S. Ordzhonikidze labor productivity must increase by a factor of two to the level that existed prior to the reconstruction.

At the Moscow "Krasnyy Proletariy" Machine Tool Building Plant the amount of production following reconstruction increased by 30 per cent; and what is more this entire increase was provided without increasing the number of workers. The Moscow Lace Curtain and Tulle Factory imeni Tel'man as the result of reconstruction increased the amount of production 1.6-fold, labor productivity 2.1-fold, and the number of industrial-production personnel was reduced 25 per cent. At the Tobacco Factory "Yava" following reconstruction labor productivity increased by 85 per cent, and the number of workers decreased by almost 6 per cent. There are many more such cases.

The constant adoption of new technology and production organization is reinforced by measures for the adoption of the scientific organization of labor, which is a mandatory condition of efficiency for the adoption of scientific-technical achievements. The raising of the efficiency of public production is directly linked with the scientific organization of labor.

During the first two years of the Tenth Five-Year Plan (1976-1977) alone in the capitol's industry due to the improvement of the organization of labor a relative savings has been obtained that is equal to labor expenditures for 27,000 annual workers.

Several important measures involving the scientific organization of labor are now in progress in the capitol. Great importance is attached to the work experience of industrial enterprises in raising labor productivity by making greater use of the brigade organization of labor for workers and improving the systems for paying their wages.

The brigade work method has been particularly widely used in construction. The dissemination of the brigade contract according to the initiative of the famous Moscow builder Comrade Zlobin makes it possible to raise labor productivity in the brigades that switch to this method by no less than 15 to 20 per cent; at the same time the quality of constrcution is substantially improved.

Another important trend is the improvement of work space organization. The adoption of standard plans reduces irrational expenditures of work time and raises labor productivity by 5 to 12 per cent. Standard plans call for the more rational lay-out, specialization, the equipping with convenient inventory, organizational rigging and the means of control and mechanization.

Much has been done in this regard at the Woodworking Combine No 9 (the Stroyplastmassa Association) and many other Moscow enterprises.

Due to the high degree of concentration of industrial enterprises, construction organizations, enterprises and sectors of all spheres of service in Moscow there are very favorable conditions for studying the dissemination and adoption of advanced experience.

Such important initiatives as "workers' support to the five-year plan of efficiency", "five-year plan assignments by the 110th anniversary of the birth of V. I. Lenin" and many others originated in Moscow and widely disseminated.

In the textile industry, which is one of the large sectors of industry in the capitol, the experience of multi-machine tool maintenance has received wide dissemination. Several remarkable leaders are working in it.

Substantial work in raising the level of norm setting of labor is underway.

In this manner, particular attention in sectors of the capitol's national economy is being directed at the more efficient use of labor resources. At the same time there are still many unresolved problems.

Contrary to the instructions of the general plan for the development of the capitol in industry a portion of product growth is being obtained by increasing the number of workers.

The percentage of workers engaged in manual labor is being reduced more and more slowly. In 1975 it amounted to 38 per cent. There is a serious lag in the rates of mechanization of the labor of auxilliary workers: whereas among basic workers less than one third are engaged in manual labor, for auxilliary workers the level of manual labor excees 44 per cent.

In the Tenth Five-Year Plan it was planned to replace 135,000 units of basic equipment or an average of 5 per cent per year; the replacement actually amounted to only about 3.5 per cent per year. The planned assignment for renovating equipment was fulfilled by 66 per cent.

In the capitol's construction organizations the assignments for growth in labor productivity are not being fully fulfilled. In the Ninth Five-Year Plan only 80 per cent of the total growth of construction and installation work was provided by a growth in labor productivity.

The reconstruction of industrial enterprises often does not lead to a reduction in the number of workers. In directing large amounts of money and assets into the reconstruction of industrial enterprises, the public is justified in expecting an increase in the efficiency of production on the basis of its intensification and raising labor productivity. However, several economic managers under various pretenses are trying not to intensify production but to expand it under the guise of reconstruction. New production spaces are being created while the technical level of production and labor conditions in old shops remain unchanged. What is more the percentage of capital investments being allocated for reconstruction and the technical re-outfitting of enterprises is still low.

At present reconstruction is underway at approximately 40 per cent of all industrial enterprises in the capitol. In examining all plans for the reconstruction of enterprises, it is not difficult to establish that at many of them the assignments for reducing the number of workers following reconstruction have not been set; and for all of these enterprises the number of workers following reconstruction is not decreasing but increasing (even though not significantly).

A random study of 17 enterprises was made where reconstruction work is now in progress and for which planned assignments have been confirmed.

At ten of these enterprises the reconstruction plans call for an increase in the number of workers and on the whole for these ten enterprises the increase in the number of workers following reconstruction must amount to approximately 16 per cent.

At the Moscow Tire Plant a 25 percent increase in workers is envisioned; at the Stankoagregat Plant a 31 per cent increase is planned; and at the Moscow Pipe Plant a 90 per cent increase is planned. In the reconstruction plans of three of the 17 enterprises data on such indicators as number of workers and labor productivity are totally lacking; only at four enterprises is a reduction planned.

In conditions of Moscow the reconstruction of enteprises must be done, as already noted, with a reduced number of workers in accordance with the confirmed general plan for the development of Moscow.

As balanced estimates of the possible number of labor resources of the capitol indicate , each year the reduction in the number of workers in industry in Moscow must amount as a minimum to 1.5 to 2 per cent; in connection with this in the reconstruction plans it must amount to ten per cent.

The worker and laborer, V. I. Lenin indicated, is the chief productive force of all humanity. In conditions of Moscow it is precisely this chief productive force that is most deficient. For this reason the drawing up of all measures for the technical re-outfitting and reconstruction of enterprises must begin with questions having to do with reducing the number of workers.

Shortcomings in the technical re-outfitting of Moscow enterprises to a large extent have departmental roots brought about by the lack of desire on the part of managers of enterprises and their higher ranking organizations to reduce the number of workers. The elimination of these shortcomings can be achieved only by improving planning.

At the November (1978) Plenum of the CPSU Central Committee L. I. Brezhnev emphasized, "...an actual move toward efficiency, as we all understand, begins with planning." *

---

* KOMMUNIST, 1978, No 17, p 13

In Moscow the methods of planning the management of the development of all enterprises and organizations are constantly being improved.

In 1975 on the recommendation of Moscow organizations the rights of the executive committee of the Mossovet as regards planning the capitol's national economy were significantly expanded.

The executive committee was made responsible for drawing up plans for the unified annual and long-term plans for the comprehensive development of the capitol's national economy based on recommendations of the ministries and departments at the national and RSFSR level. These plans are not just the sum of the plans of individual enterprises and organizations presented by the ministries, but amount to a draft of their own plans for the economic and social development of the city, which indicate the development of the production-related and nonproduction-related spheres. These plans are drawn up by the executive committee and then presented to the USSR Gosplan and the government, where they are examined and confirmed as an individual section of the national economic plan.

When drawing up the drafts of the comprehensive plans the government requires the executive committee of the Mossovet to begin with the basic statutes and indicators of the city's general plan and to pay particular attention to the overall balance of the requirement for a work force with labor resources.

The executive committee of the Mossovet performs a specific task to ensure the more balanced development of all sectors of the capitol's national economy. This work is based on an analysis of Moscow's development for the entire preceding period. The analysis shows that there are tendencies toward a growth in the number of workers in all sectors of Moscows national economy.

During the years 1971 through 1978, for example, the number of workers increased by 12 per cent. By individual sectors this growth was uneven: in industry it was less than 1 per cent; in transport it was nearly 2.5 per cent; in construction it was somewhat greater - 18 per cent; in health care it was almost 30 per cent; in science and scientific services almost 20 per cent; in trade and public dining approximately 13 per cent; and in the capitol's housing and communal services almost 3 per cent.

One must once again emphasize that all of these processes scarcely correspond to the general plan for the development of the capitol. As noted previously, the general plan calls for a growth in the amount of industrial production of the capitol to take place with a substantial reduction rather than with an increase.

One of the more important sections of the comprehensive plan is the plan for the technical re-outfitting of Moscow's national economy. On the basis of these assignments the planning of the technical level of the enterprises is constructed. In January 1979 the XXIII Moscow City Conference

---

* MOSKOVSKAYA PRAVDA, 28 Jan 79, No 24

proposed: "At each enterprise and each labor collective it is necessary to provide for the drawing up and realization of the comprehensive program for the adoption of the achievments of science and technology, the automation and mechanization of production processes and the improvement of the organization of labor." * The drawing up of such programs is being

accomplished, which will make it possible by as early as 1979 to speed up the rates of mechanization and automation of production. For example, at the Moscow enterprises of the chemical machine building it is planned to replace 6.3 per cent of all installed equipment. At enterprises of the instrument building sector the replacement of equipment will amount to nearly 6 per cent, eleven mechanized and automated flow lines will be adopted, and 9 fully mechanized sections will be created.

The planning for the reconstruction of enterprises is also of importance. The amounts of work for reconstruction are constantly increasing: during the years 1976 through 1978 as many assets were used as were during the entire Ninth Five-Year Plan altogether. At the same time in pursuing the matters of reconstruction it is necessary to take a significantly clearer line directed at conserving labor resources.

In particular when preparing proposals for the reconstruction of enterprises the proposals must call for a reduction in the number of workers at the enterprises that are being reconstructed.

Following the confirmation of the reconstruction plans, i.e. the drawing up of all questions pertaining to equipment and production technology at the enterprises being reconstructed, these plans must be once again examined in the city planning commission and in other city organizations. Practical work on reconstruction must be started only in those cases when the plans truly call for a substantial reduction in the number of workers.

The planning of the mechanization and automation of production is reinforced by the direct planning of the number of workers. Recently the number of workers in science and scientific service is planned also as an individual line.

The number of workers for enterprises and organizations is determined on the basis of the balance of labor resources of the capitol. Strict adherence to the planned number of workers is a necessary condition for conserving labor resources of the capitol and the further raising of labor productivity.

Assignments for labor productivity and the total number of workers are recorded in the State plan for the economic and social development of Moscow. They are established at a level that presupposes the accomplishment of important measures for the technical re-outfitting of production.

The steps taken in Moscow on mechanization and automation of production require the further improvement. The combined work of the sectorial ministries and Moscow planning organs is having a substantial effect and will have an even greater effect in the future.

COPYRIGHT: Izdatel'stvo "Mashinostroyeniye", "Mekhanizatsiya i
avtomatizatsiya proizvodstva", 1979

8927
CSO: 1821

UDC 658.589:061.22

SVERDLOVSKAYA OBLAST MACHINERY INDUSTRY SURVEY

Moscow MASHINOSTROITEL' in Russian No 1, Jan 80 p 7

[Article by Doctor of Technical Sciences Yu. S. Sharin, Chairman of the Sverdlovskaya Oblast Board of the Scientific and Technical Society of the Machinery Industry, and T. I. Tishenina, scientific secretary of the oblast board: "Important Means of Increasing Production Efficiency"]

[Text] In order to generalize materials on the status of introducing and using various types of new equipment, progressive technological processes and accessories at machine-building enterprises, the Sverdlovskaya Oblast Board of the Scientific and Technical Society of the Machinery Industry has been surveying enterprises since 1978. Thus, in 1978-1979, the board surveyed enterprises of the Central Urals to determine the scope and level of use of machines with digital programmed control, of USP's [universal assembly devices], of introduction of mechanized and automated warehouses.

The use of digital-programmed machines is the basic means of automating the machining of blanks at enterprises with mass, small-series and unit production. They permit lowering output prime cost, improving quality and increasing labor productivity two- to three-fold.

The survey showed that digital-programmed machines play a major role in the economy of each enterprise. However, the scope and level of their use are still inadequate: the average shift index is 1.3, load factor is low, and down time averages 30 percent. The main reasons for the down time are: poor reliability of the machines and their controls, lack of spare parts for machines and control panel units, poor tool quality, and shortcomings in labor organization and management.

It was established that USP's have found application at only 25 of the 49 machine-building enterprises surveyed. At those plants, USP's comprise an average of 22.7 percent of the total number of devices. Upwards of 67,000 layouts are being assembled by USP's each year. Each sector accounts for an average of five USP assemblies per day.

In determining the scope of introduction of mechanized and automated warehouses, it was revealed that the bulk of the 45 enterprises surveyed had introduced mechanized warehouses only in the Ninth Five-Year Plan. By 1979, 608 mechanized and nine automated warehouses had been introduced. Mechanized warehouse floorspace averages about 65 percent of all warehouse floorspace. In this regard, 78 percent of the warehouses are manufactured at the plants themselves. The introduction of a single mechanized warehouse leads to an oblast-average hypothetical freeing of 1.4 production workers and 53 m^2 of floorspace. The annual savings from introducing a single warehouse are about 5,000 rubles.

Analysis of the survey data enabled us to reveal reserves for increasing the effectiveness of warehouse use. It was established that, along with the enterprises using warehouses successfully, there is also a group of enterprises at which warehouse use effectiveness is inadequate.

Only 25 percent of all warehouses are equipped with stacker cranes, five percent with forklift-type floor transport; 35 percent are elevator-type warehouses of small capacity and therefore less efficient to operate; 35 percent are warehouses with overhead and gantry cranes, and the effectiveness of using these warehouses is even lower.

The survey showed that enterprises have barely begun introducing automated warehouses, although it is precisely such warehouses which permit us to make the labor of servicing personnel substantially easier and improve recordkeeping; they provide an opportunity to switch warehouses into overall automated equipment and technological process control systems. The reasons for the inadequate introduction of automated warehouses: lack of experience in manufacturing and introducing them, lack of reliable control systems, and underestimation of the effectiveness of this equipment by enterprise leaders.

The CPSU Central Committee and USSR Council of Ministers Decree "On Further Developing Machine Building in 1978-1980" focuses enterprise attention on the necessity of manufacturing means of mechanization and automation more extensively through their own efforts. Under these conditions, the large enterprises with the forces and means to carry out these recommendations are at an advantage. It is therefore necessary to strengthen the material base of the small enterprises in order for them to have greater opportunities to manufacture means of mechanization and automation.

The materials from each survey are reviewed and discussed in detail at meetings of the presidium of the oblast board of the scientific and technical society of the machinery industry. One result of the analyses made is a generalization of the experience available in the oblast and the preparation of specific recommendations aimed at disseminating leading experience. The oblast board of the scientific and technical society of the machinery industry will therefore continue working to reveal the status of the introduction of new equipment, progressive types of tools and accessories and new technological processes. The board's recommendations, once accepted by oblast machine-building enterprises, are an important means of increasing the efficiency of social production.

COPYRIGHT: Izdatel'stvo "Mashinostroyeniye", "Mashinostroitel'", 1980

11052
CSO: 1821

METALWORKING EQUIPMENT

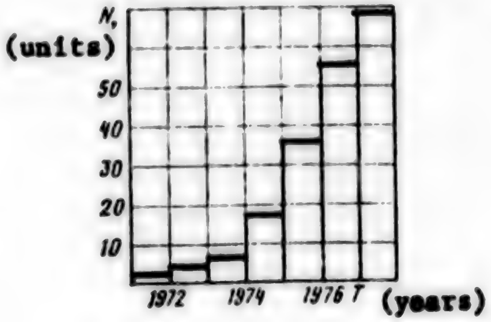
UDC 621.9.06-529.004.14

DIGITAL PROGRAMMED CONTROL MACHINE TOOLS

Moscow MASHINOSTROITEL' in Russian No 1, Jan 80 pp 16-17

[Article by V. A. Shnurnikov and B. A. Dmitrichenko: "Our Experience in Introducing Machines With Digital Programmed Control"]

[Text] Our plant began introducing machines with ChPU [digital programmed control] in 1972, and in 1975-1978 we began retooling a number of shops on their basis.



As is evident from the bar chart, the number of machines with ChPU introduced at the plant has increased continuously year by year. By 1980, we plan to have increased their number to 100 units. Such rates of introduction of highly productive equipment permit substantial change in the look of a number of machine shops.

The total cost of the ChPU machines introduced during 1972-1978 can be determined using the formula

$$K_{\text{ст}} = \sum_{j=1}^{m} k_{\text{ст}_j},$$

where m is the number of all ChPU machine models; $k_{\text{ст}_j}$ is the cost of the j-th ChPU machine model. By 1979, the total cost was approximately 2.5 million rubles.

Thus, the enterprise has had considerable financial expense on acquiring ChPU equipment; moreover, there have been expenditures on preparing for production, training operators and servicing personnel, installation and set-up work, restructuring the organization of work in a number of shops in connection with assembling ChPU machines, and so forth.

The age composition of the ChPU equipment is as follows: 15.6 percent under one year, 28.2 percent under two years, 25 percent under three years, 21.9 percent under four years and 9.3 percent under five years.

The enterprise operates 14 models manufactured by various plants. The overwhelming majority of the ChPU equipment is in the turning and milling group (lathes 48.6 percent, milling machines 39.7 percent, drill presses 8.8 percent, and milling jig borers 2.9 percent).

Control programs were initially introduced in those machines on which the manufacture of especially complex parts demanded high skill. At present, ChPU machines are working parts with complex multistage and curvilinear surfaces such as levers, linkages, cross pieces, clutches, bushings, and so on. Approximately 70 percent of the parts worked are in complexity groups I and II. The working time of individual programs has reached 1 hour 40 minutes. Along with these operations, we also use simple ones relating to complexity group III (milling level surfaces, coincident cutting, facing and surfacing, and others). We have mastered the working of large roller-type parts up to 100 mm in diameter and 1,500 mm long, box-type parts with internal shaping of slots, windows and recesses to great depths, drilling a large number of openings in box-type parts, connecting rods, cylinder heads and other parts, using ChPU machines.

Stampings, forgings in self-guiding dies, free forgings, rolled metal, castings, and so forth, are used as blanks. Depending on the type of blank, the machining allowances vary from two to 10 mm. As was revealed during the course of introducing and operating ChPU machines, the effectiveness and intensiveness of their use depends in considerable measure on the size of and fluctuations in the allowances for the castings and forgings, since this influences the amount of down time and errors and in the end affects the productivity of the machines. In this connection, monitoring the blanks coming into ChPU machine sectors takes on particular importance.

Sixty-nine operators and adjusters work the ChPU machines; each adjuster services 2-5 machines and each operator operates 2-3 machines. Several skilled operators adjust their machines themselves. Ordinarily, skilled specialists with much experience work as machine adjusters. In order to ensure proper operation of ChPU machines, instructions on servicing them have been developed.

The efficiency with which highly productive ChPU equipment is used depends directly on the prompt elimination of causes of down time. Therefore, the plant has set up precise recording and analysis of down time: adjusters and operators record each down-time incident and the reason for it in a special journal. The following reasons for down time have been established: technical (malfunctions of control systems, hydraulic, mechanical and electrical parts, lack of lubricants, spare parts or electric power, and planned equipment servicing and repair), unknown causes, organizational reasons (lack of materials and blanks, tools, attachments, operators or adjusters, poorly drawn up shift and daily assignments, failure to eliminate malfunctions promptly, lack of control programs).

An analysis made at the plant in 1978 showed that down time for ChPU machines in use comprised 37 percent of all available working time (18 percent for technical reasons, 7 percent due to unsatisfactory technological preparation and 12 percent for organizational reasons). The most frequent organizational reasons for down time were lack of blanks and inadequacies in the planning system, which lead to a large number of machine readjustments, to down time caused by lack of work, and so forth. If all 1978 down time for technical reasons is taken as 100 percent, down time due to electronics malfunctioning comprised 34.5 percent, mechanical malfunctions were 14.4 percent, hydraulic system malfunctions were 9.3 percent, and malfunctions of electrical components were 5.4 percent; preventive maintenance, planned midrange and unplanned repairs, lack of electric power, hydrostation cooling water, oil and spare parts, reinstalling and remounting machines, and other reasons accounted for 36.4 percent of the down time.

The bulk of the down time associated with the technological preparation of production is comprised of down time due to a lack of and wear on tools, necessary attachments and fittings, as a result of errors permitted in the control programs and their stand-by programs, as well as due to insufficient control programs and for other reasons.

It should be noted that in the initial years of ChPU machine use. their load and shift indices increased. Thus, whereas the load and shift indices were 0.19 and 0.34, respectively, in 1973, they were 0.71 and 1.44 in 1975. This is to be explained by the lack of skilled personnel, mastering manual programming methods, overcoming a certain psychological barrier, and so on. Subsequently, growth in the shift index was observed, but at a slower rate. This resulted from the more intensive equipping of the enterprises with new machine models, from the recruitment and training of new personnel, from the mastering of automated programming methods using computers, and from other reasons.

Thus, precise recording of ChPU equipment use is very important to the enterprise, inasmuch as it permits closing the feedback circle at two time levels: daily receipt of information on equipment operation is translated into the issuance of daily assignments on eliminating down time and monitoring their execution; monthly studies of ChPU machine use analysis results are translated into measures planned for enterprise services to eliminate the most characteristic down-time causes in a given period.

It should be noted that not all problems associated with the efficient use of ChPU equipment have been solved yet. As before, the complicated complex of this work requires the constant attention of shop and department leaders and of the enterprise leadership to further improving this work. However, the organization of a centralized ChPU equipment maintenance service, a precisely functioning system of recording and analyzing down time, and implementation of measures to eliminate down time -- all this enabled the enterprise in 1978 to raise the technical readiness factor for ChPU machines by approximately 50 percent.

COPYRIGHT: Izdatel'stvo "Mashinostroyeniye", "Mashinostroitel'", 1980

11052
CSO: 1821

METALWORKING EQUIPMENT

MULTI-PURPOSE DIGITAL PROGRAMMED MACHINE TOOLS DISCUSSED

Moscow MEKHANIZATSIYA I AVTOMATIZATSIYA PROIZVODSTVA in Russian No 6,1979 pp 37-38

/Article by Doctoral Candidate of Engineering Sciences B. S. Voskoboynikov and Engineer V. A. Potapov: "Automated Section with Multi-Purpose Digital Programmed Machine Tools"/

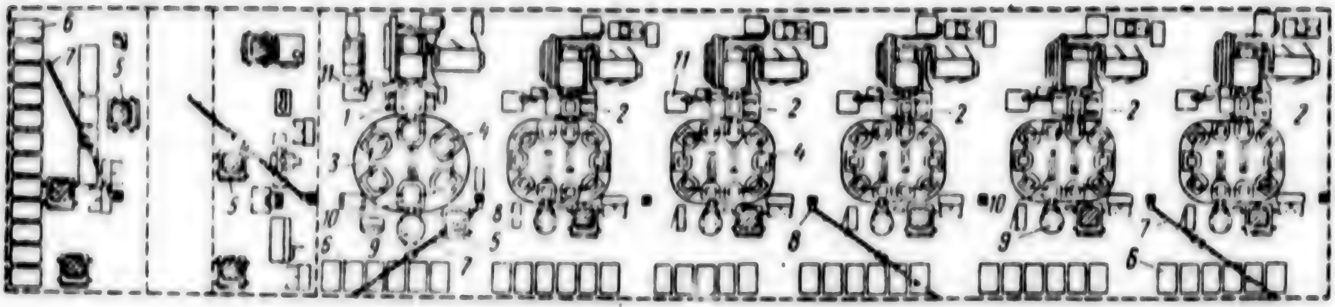
/Text/ At a plant of the ACEA (Sweden) company by August 1978 it was planned to completely put into operation a section consisting of machine tool modules that were manufactured by the "Kerny and Treker" (USA) company. The section was to be used for the comprehensive processing of casing parts for heavy electrotechnical equipment. The production is of a small-scale series production nature with an extensive product list of parts to be processed. In the section it is projected to reduce to a minimum the interoperational delay of parts and the amounts of unfinished production.

The basic purpose for creating the complex is the complete automation of the around-the-clock processing procedure on the machine tools so that during the night shift the process can function under the supervision of only one operator and during the two day shifts it will require two or three operators.

The automated section (See drawing) includes six modules on a base of multi-purpose machine tools installed in the line. From the left the largest machine tool (1), model MM800, is installed with a storage unit (3) for six satellite attachments (4). The remaining rife machine tools (5), model MM600, have storage units for ten satellite attachments. The model MM800 machine tool processes billets measuring up to 1100 X 900 X 800 mm; the other machine tools can handle measurements up to 762 X 616 X 508 mm.

The satellite-attachments move within the limits of the section on carts (5) using pull chains. The transfer of the satellites from the inner storage units (6) to the carts (or to the machine tools) is done by cantilevered cranes (7), which revolve around the axis (8). One cantilevered crane serves two machine tools. At the end of each shift the storage units are loaded for the next shift. At the end of the second shift the storage units are fully loaded for the night shift.

Configuration of section comprised of specialized machine tools



The parts are fed into the section, the processing cycle of which takes 45 to 60 minutes. Such parts are installed one at a time on the satellite. For parts with a shorter processing time multiple attachments are used, by use of which they are installed on the satellite several at a time. In some cases four parts are simultaneously placed on the satellite (one for each side) so that the processing cycle approximates the established work period of 45 to 60 minutes.

To avoid mixing shavings pig-iron parts are processed on two of the machine tools and steel and light-alloy parts (including welded parts) are processed on the other machine tools. However, this rule is not always observed, which reduces the primary worth of the complex - flexibility. Shavings are collected in the tank (11). When necessary the parts being processed are replaced in the machine tool during one shift.

The flexibility of the system insures that various parts can be secured on the machine tools in one storage unit. In this manner the storage unit of a larger machine tool can hold six different manufactured articles, and the others can hold ten each.

Each satellite has a coded circuit for identifying a part in the system. When the satellite is installed in the loading position (9), the code is counted. After this the satellite is transferred to position (10) by means of a hydraulic device. The identification signal of the part is transmitted to the system of the digital programmed (CHPU) machine tool, after which the appropriate control program is summoned from the memory device on flexibile magnetic discs. The capacity of the memory device on the magnetic discs of each CHPU system is equivalent to 1,500 meters of punched tape. Each system is outfitted also with a tape reading device.

The control program contains all information concerning the cutting tools. The chain magazine of the MM800 machine tool holds 68 tools; the magazines of the MM600 machine tools hold 52 tools each. In the event that during processing some part is subjected to a malfunction, the appropriate satellite is reverted into a storage unit and the next part is moved into processing position (when necessary the control program is replaced).

Since the number of operators in the section is small (2 or 3 during daytime shifts and 1 at night), an automatic control system has been developed for monitoring the condition of the tool. The control program of the tools is compiled before they are used. There are contact heads with a test rod, which signal, for example, a broken gear or bit. The tool being checked revolves slowly during this. During the check of the bits the spindle slides in an axial direction so that it can test the cutting edges and the shavings grooves along the entire length. Before the check the tools are blown out with compressed air.

If the tool is defective, it is automatically returned to the magazine and a standby tool is used for the processing. Such standby tools are planned for tools that wear out faster than others. The system also transmits a signal for the completion of the periods of the life of the tools, which are then extracted from the magazine and transferred to the tool department for sharpening or to be discarded. If a tool for which there is no standby malfunctions a signal is transmitted to the operator.

In addition to the tools, the magazines hold measuring heads (with appropriate stems), which are battery powered. The head is installed in the spindle by means of a mechanism for the automatic replacement of the tool. The summons of the head is provided by a program during the processing of each part for checking the more important dimensions. These dimensions include those, for example, which must be corrected in order to obtain a given precision of processing due to the appearance of temperature deformations during the operation of the machine tool. The measured values are transmitted to the CHPU system, where they are compared with the assigned values. When there is a discrepancy that exceeds what is allowed, a signal can be fed, for example, to repeat the preceding program card after making the correction.

For some tools a SOZH [possibly lubricating and cooling liquid] feeding is called for through the axis channels to guarantee that the liquid falls on the cutting edges, for example, during deep drilling.

For a complex consisting of several machine tools with such a high degree of automation particular significance is attached to the uninterrupted feed-in of billets and tools. For this reason provision had been made for a large number of internal storage units, which are situated on both sides of the section and along the line of the machine tools. The loading of the satellite-attachments is done near the internal storage units. For the continuous supply to the complex of tools provision has been made for a section for preliminary adjustment of the tools to the size of a large throughput.

During a short period of time at the start of the first shift the number of operators in the section increases to unload from the machine tools the parts that were processed during the night and to load the satellites with billets. The CHPU system permits an operator to interfere in the work process at any processing stage. However, in the first stage of operating the complex, the user company plans to make corrections to the control programs only with production programming experts.

COPYRIGHT: Izdatel'stvo "Mashinostroyeniye", "Mekhanizatsiya i
avtomatizatsiya proizvodstva", 1979

8927
CSO: 1821

METALWORKING EQUIPMENT

AUTOMATIC CENTERLESS GRINDER POLISHING MACHINE

Moscow MEKHANIZATSIYA I AVTOMATIZATSIYA PROIZVODSTVA in Russian No 11, 1979 pp 1-2

/Article by engineers I.T. Napadaylo, Yu. V. Chernyavskiy, A. I. Kutsenko, V. K. Bekhter, A. V. Kurakov, N.N. Fateyev, V. G. Zinenko and V. I. Voskoboynikov: "A System of Automatic Control of the Stress of Polishing on Centerless Grinders"/

/Text/ The scientific-research and experimental design institute of automation of ferrous metallurgy (NIIAchermet) in cooperation with the Nikopol' Southern Pipe Plant had designed and adopted a system for the automatic control of the stress of grinding (ARUSH-77) on centerless grinders to be used for the polishing of pipe and rod surfaces.

The use of the ARUSH system increases productivity by decreasing the total number of operations required to completely eliminate defects, to reduce the relative expenditure of abrasive materials, and to make it possible to organize the servicing of two machine tools by one worker and to free him from manual operations.

The system is designed on a modern elemental base, which has made it possible to significantly improve the characteristics of control and to reduce the size and weight of the system.

Technical Characteristics of the System

Current of the electric motor for the drive of polishing round, A	Or 18 ± 2 to 50 ± 4
Discreteness for establishing current of polishing, in percentage, not greater than	10
Error of supporting polishing current, in percentage, not greater than	10
Nominal voltage of system power supply, B . . .	220
Input, B X A, not greater than:	
Electric motor of the feed mechanism	1000
Electronic unit and control panel	140

Dimensions, in millimeters:

Feed mechanism	825X710X1070
Electronic unit	192X188X128
Control panel	155X188X128
Impedance unit	350X200X200

The functional diagram of the system is given in the drawing.

On the basis of the principle of the effect of the automatic control of the stress of polishing system there is a comparison of the amount of current for the motor of the polishing round, which is in proportion to the stress of polishing, with the assigned value which is established by a controller of the current of polishing, the forming of the control signals and the transmission of the signals to the executing mechanism.

A special feed mechanism, which is installed on the centerless grinder during installation of the system, is used as the executing mechanism.

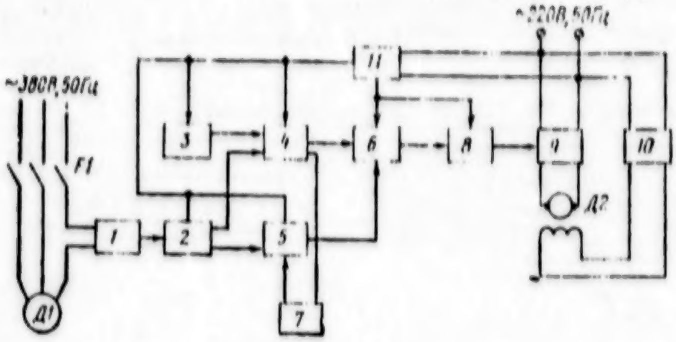
The feed mechanism contains a direct D2 current motor, which through a reducer and a V-belt transmission, while interacting with the machine tool's feed mechanism, decreases the amount of displacement between the assigned current of polishing and the actual current.

The speed of revolution of the motor for the feed mechanism is controlled by a change in phase of the opening of the thyristors converter, and the direction of revolution of the motor is controlled by a change in polarity of the feed voltage.

In the absence of a pipe in the polishing zone, in the chain of the motor D1 of the drive of the polishing round flows an idling current. The signal from D1 through the transformer of the current with elements of concordance 1 proceeds to the rectifier unit 2.

The output voltage of the rectifier unit 2 is proportionate to the current of the motor D1 and controls the work of element 5, the threshhold of abrasion of which is somewhat greater than the voltage that is proportionate to the current of the motor's idling D1. The operation of the system is blocked by an electronic key 6.

At the moment of the pipe feed into the polishing zone the motor's current D1 increases, the threshhold element 5 comes into action, and the electronic key 6 releases the blocked signal.



Functional diagram of the system

A signal from the controller of the polishing current 3 and the rectifier unit is fed into the comparison unit 4. The output signal of the comparison unit 4 influences the unit for the formation of the ignition pulses.

The formed pulses of ignition feed into the half wave thyristor converter 9.

Depending upon the value and sign of displacement between the controlled value and the assigned value the phase of the ignition pulses changes, and subsequently the value and sign of the output voltage of the thyristor converter, while decreasing the amount of displacement.

In order to increase the stability of the system's operation a dead zone is created in the unit for the formation of ignition pulses.

The unit for imitating operational modes 7 makes it possible to check the operation of the basic system components during adjustment.

The power unit 11 puts out needed kinds of power voltages for the control system. The exciting winding of the motor for the feed mechanism D2 receives power from power unit 10. In design the ARUSH-77 system is executed in the form of electronic units and a feed mechanism. To install the system in a centerless grinder a replacement is made of the existing flywheel feed by a special feed flywheel that is included in the overall system. This flywheel makes it possible to accomplish both the manual feeding of the polishing round (with a closed catch) and the operation within the ARUSH-77 system (with an open catch).

The electronic units of the system are executed on the unit-module principle, which reduces standdowns during malfunctions.

The elemental base consists of discrete semiconductor instruments, optical electronic elements and so forth.

In 1979 it is planned to introduce in shops of the Nikolpol Southern Pipe Plant 25 ARUSH-77 system assemblies.

COPYRIGHT: Izdatel'stvo "Mashinostroyeniye", "Mekhanizatsiya i avtomatizatsiya proizvodstva", 1979.

8927
CSO: 1821

END

SELECTIVE LIST OF JPRS SERIAL REPORTS

USSR SERIAL REPORTS (GENERAL)

USSR REPORT: Agriculture
USSR REPORT: Economic Affairs
USSR REPORT: Construction and Equipment
USSR REPORT: Military Affairs
USSR REPORT: Political and Sociological Affairs
USSR REPORT: Energy
USSR REPORT: International Economic Relations
USSR REPORT: Consumer Goods and Domestic Trade
USSR REPORT: Human Resources
USSR REPORT: Transportation
USSR REPORT: Translations from KOMMUNIST*
USSR REPORT: PROBLEMS OF THE FAR EAST*
USSR REPORT: SOCIOLOGICAL STUDIES*
USSR REPORT: USA: ECONOMICS, POLITICS, IDEOLOGY*

USSR SERIAL REPORTS (SCIENTIFIC AND TECHNICAL)

USSR REPORT: Life Sciences: Biomedical and Behavioral Sciences
USSR REPORT: Life Sciences: Effects of Nonionizing Electromagnetic Radiation
USSR REPORT: Life Sciences: Agrotechnology and Food Resources
USSR REPORT: Chemistry
USSR REPORT: Cybernetics, Computers and Automation Technology
USSR REPORT: Electronics and Electrical Engineering
USSR REPORT: Engineering and Equipment
USSR REPORT: Earth Sciences
USSR REPORT: Space
USSR REPORT: Materials Science and Metallurgy
USSR REPORT: Physics and Mathematics
USSR REPORT: SPACE BIOLOGY AND AEROSPACE MEDICINE*

WORLDWIDE SERIAL REPORTS

WORLDWIDE REPORT: Environmental Quality
WORLDWIDE REPORT: Epidemiology
WORLDWIDE REPORT: Law of the Sea
WORLDWIDE REPORT: Nuclear Development and Proliferation
WORLDWIDE REPORT: Telecommunications Policy, Research and Development

*Cover-to-cover

END OF FICHE

DATE FILMED

4 April 1980

D.D.